Summer Consumer Electronics Show '91, p.68

AC Special

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For The Commodore AMIGA

Volume 6 No. 7 July 1991
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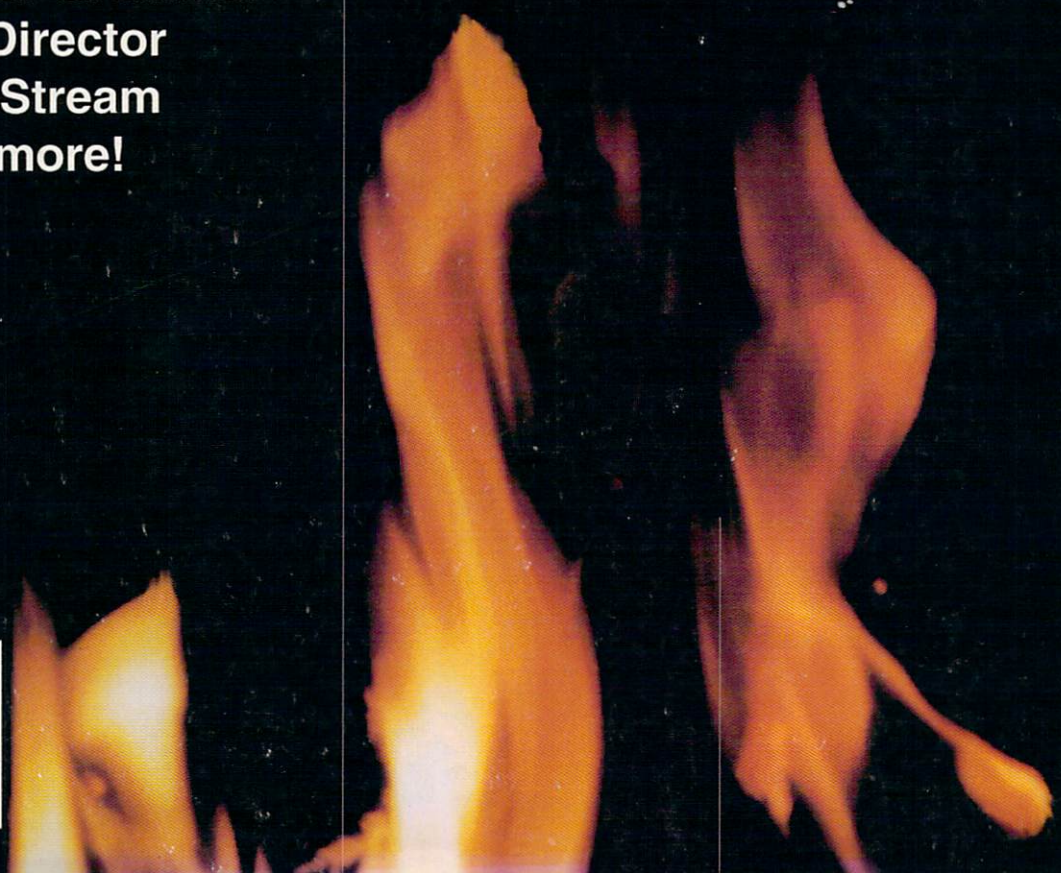

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The Evolution of Publishing: PageStream 2.2

AmigaWorld called PageStream 2 the "Amiga desktop publishing king of the hill." Amiga User International named it the "heavyweight champion." But we weren't satisfied. We wanted to create the most advanced publishing system for any computer, so we added a new interface, HotLinks, and a host of new features to create PageStream 2.2. HotLinks lets text, graphics and publishing applications talk to each other in real time, on one computer and across networks. So, instead of spending time importing text and graphics, you can spend more time being creative. PageStream 2.2: The evolution of publishing is complete.

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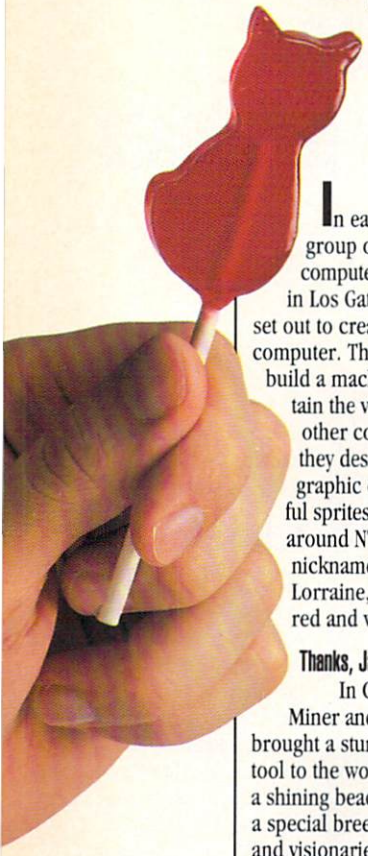
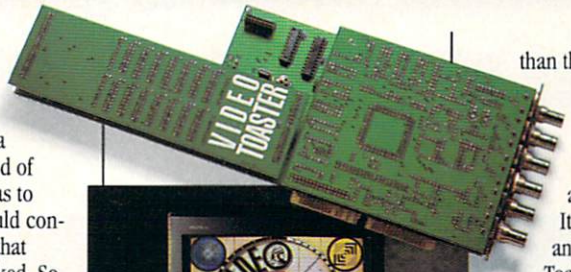


In early 1982 a group of brilliant computer designers in Los Gatos, California set out to create a new kind of computer. Their dream was to build a machine that would contain the visual power that other computers lacked. So they designed breakthrough graphic coprocessors, powerful sprites, and then built it all around NTSC video timing. The nickname for the machine was Lorraine, and its mascot was a red and white bouncing ball.



Thanks, Jay

In October of 1985 Jay Miner and his team of pioneers brought a stunning new creative tool to the world. The Amiga was a shining beacon of the future to a special breed of hackers, artists, and visionaries. One group of these hackers was drawn together from around the country to form NewTek in Topeka, Kansas. They shared a common desire to expand on the technological marvel called the Amiga. They saw the Amiga as more than a computer, it was the beginning of a revolution.

Team Toaster:
Hardware:
Tim Jenison,
Brad Carvey,
Gary Krohe,*
Charles Steinkuehler.
Software:
Tim Jenison,
Stuart Furguson,
Steve Hartford,
Allen Hastings,
Daniel Kaye,
Steve Kell,
Jamie Purdon,
Steve Speier,
Peter Tjeerdsma,
Ken Turcotte.
Documentation:
Robert Blackwell,
Nick Lavroff,*
Brent Malnack,
Steve Peterson,*
Tony Stutterheim.
Software Design:
Paul Montgomery,
Mark Randall,
Kiki Stockhammer.
*not pictured

The Super Amiga

What if the Amiga had more resolution, more colors, more power, more speed; in short, more of everything that makes the Amiga great? It wouldn't be like a computer anymore. It would be as powerful as expensive network-level video equipment. But it would mean designing four complex VLSI chips, it would mean writing 350,000 lines of assembly language software. Ultimately it would mean inventing whole new technologies. Just the kind of insane challenge that hackers can't resist. Perhaps more than anything, the fact that "it couldn't be done" is what drove "Team Toaster" to do the impossible.

"It'll Never Ship"

In early 1987, Team Toaster moved away from the rest of NewTek to a secret location codenamed "Alcatraz." No office hours, no phone calls, no interruptions. They worked 70 hour weeks. They invented bizarre tricks to drive the 68000, copper, and blitter to new levels of performance. They evolved strange hardware hacks to emulate expensive parts. They concocted their own cinnamon candy. Building the Video Toaster became a more ambitious project than the Amiga itself. Every night, every weekend, every holiday, the world went about its business, and the lights at 'Traz kept burning. It didn't matter what anyone else said, Team Toaster was racing after a very personal dream.

These 8 disks represent over 50 man-years of programming effort.

"We Have Toast"

In October 1990 the Video Toaster® shipped. The world noticed. Everyone from USA Today and The New York Times, to Business Week and Rolling Stone, is calling the Toaster the hottest video product ever. It has become the most successful Amiga product of all time.

In fact, the Toaster is so hot that it's bringing the Amiga to new markets. The Video Toaster stand-alone system (an Amiga 2000HD with factory-installed Toaster) was the hit of Comdex, the world's largest IBM PC show, and was even acknowledged as the hit of MacWorld Expo by MacWeek Magazine. The Video Toaster is giving our dealers the opportunity to win over the corporate, educational, and pro video users that the Amiga needs for success in the nineties.

When the Amiga shipped in October 1985 it held the promise of video on a desktop. The shipment of the Video Toaster fulfills that promise. And by the way, the lights are still on at 'Traz.

This sign sat proudly in front of Amiga headquarters in Los Gatos, California, where the desktop video revolution began in October of '85.

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With every $1595 Video Toaster you get the 6 most powerful graphics products ever created for the Amiga...

LightWave 3D

Toaster Character Generator

ToasterPaint

Genlock/Luminance Key

1. LightWave 3D Modeling, Rendering and Animation

Really three programs in one, LightWave will make you forget everything you know about 3D on the Amiga.

LightWave Modeler includes all the powerful object creation tools you expect in a state-of-the-art 3D system. Unique real-time perspective mode helps you visualize your object as you create it. Includes over one hundred ready-made objects.

LightWave Renderer is the best available on a personal computer, regardless of cost. Not only is it the fastest renderer by far, but it has all the features you need to create network quality 24-bit 3D graphics, including: Variable resolution (up to 1536 by 960), Ray-traced shadows, Texture mapping from live video, Bump mapping, Reflection mapping, Unlimited light sources and Particle systems with variable motion blur. *Byte Magazine* concludes, "The renderer is a masterpiece. This is hot stuff."

LightWave Animation is the most powerful, hassle-free animation system ever created. Highly interactive real-time wireframe editing will have you creating complex spline-based animations in a matter of minutes. Lou Wallace in *Amiga World Magazine* says, "Having used just about every 3D rendering package on the Amiga market, I can truthfully say that LightWave absolutely blows away everything."

2. Overlay Genlock and Luminance Key

The Toaster Genlock lets you overlay your Amiga graphics on any live video source. Used in conjunction with the Toaster's frame buffers, you can run Amiga animations over 24-bit ToasterPaint or LightWave backgrounds for dazzling results.

For more powerful overlaying capability, use the Toaster Luminance Key. Works like a Chromakey except the background is black or white instead of blue. You can, for example, key your subject in front of a weathermap or any other graphic or live video source.

3. ToasterPaint 24-bit Hi-res Paint System

The most advanced video paint program ever created for a personal computer, ToasterPaint is winning raves for bringing true-color painting to the Amiga for the first time. Using the Toaster's Frame Buffers, ToasterPaint is the only PC-based paint system capable of displaying 24-bit YIQ-encoded broadcast-quality video, in short, the sharpest video images possible from a computer.

ToasterPaint makes powerful network graphics tools easy to use. Just point-and-click for: Variable transparency, Smooth shading, Blending, Range, Colorize, Blur and RubThru. Use texture mapping to warp, bend, stretch and twist images. The Toaster's all-in-one design allows cutting and pasting between Toaster Character Generator, LightWave or grabbed video images. *Video Magazine* raves, "We were able to create images that rival those of professional video paintboxes...ToasterPaint alone may be worth the price [of the Toaster]."

4. Toaster Character Generator 24-bit 35-nanosecond resolution

With twice the resolution of any other Amiga Character generator, and over 4000 times the color, Toaster CG gives you the network quality that clients demand. Toaster CG works with the Toaster's 24-bit frame buffer and linear keyer to produce sharp, jaggie-free text with perfect drop or cast shadows. The Toaster hardware also makes other special features possible, such as transparent shadows, band-free smooth color gradations and smooth dissolves between pages. These high-end features are impossible with software-only CG's. Only the Video Toaster has 16.8 million color ChromaFonts and the ability to use digital effects to tumble, spin, peel, and warp text in real-time.

5. Two 24-bit Frame Buffers

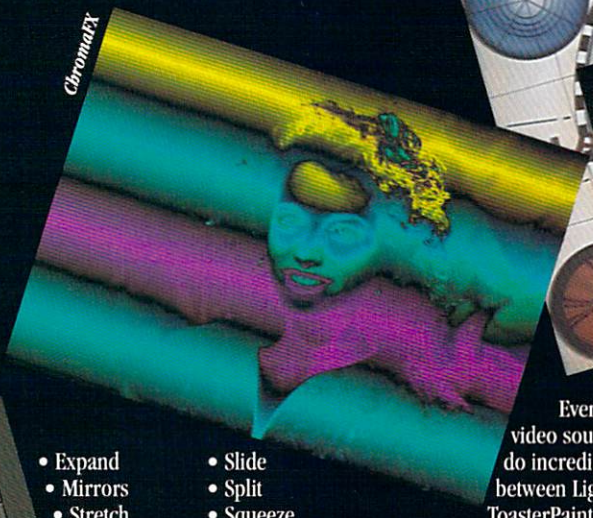
The highest quality video output for any personal computer ever. The Video Toaster has not just one, but two high resolution frame buffers that each output 16.8 million colors (24-bit). The Toaster is the only video output for the Amiga that is legally broadcastable at the network level. Our unique YIQ-encoding means Toaster colors won't bleed, Toaster edges won't crawl, and Toaster pixels won't smear — in other words, the sharpest video image possible.

The Video Toaster meets not only all RS-170A specs but the tougher FCC specs as well. Don't be fooled by low-end "24-bit video converters" that trade resolution for more colors. Only the Toaster can output full NTSC resolution, YIQ-encoded video at 60 fields per second.

6. Toaster Real-Time 24-bit Frame Grabber

From the company that defined video digitizing standards for the Amiga comes the ultimate frame grabber. Freeze video instantly from your color video camera, camcorder, laserdisc player or cable TV, and display images in 16.8 million colors and full video resolution. With a Toaster-compatible TBC installed (starting at $995 retail), you can grab frames from any taped video source as well. The frames may then be used by ToasterPaint, ToasterCG or LightWave 3D for further manipulation. Images may be loaded from disk into the Toaster Frame Buffers in two seconds or less for fast-paced multimedia presentations.

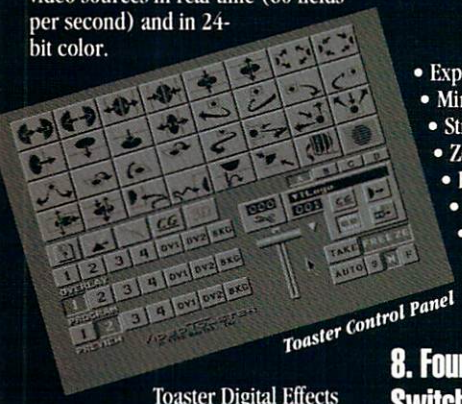
and something truly phenomenal... your own TV studio.



7. Toaster Digital Video Effects

"An almost unbelievable breakthrough." That is what the press and public have been saying about the Toaster's Digital Video Effects. For the first time you can process live video on your desktop just like the networks do.

The Toaster's four custom VLSI chips let you warp any of four live video sources in real-time (60 fields per second) and in 24-bit color.


Toaster Control Panel

Toaster Digital Effects remove the last barrier to network quality video on a desktop. There is nothing else like this. These effects must be seen to be believed! *Business Week Magazine* says, "As capable as gear normally costing $60,000." Toaster Digital Effects are as incredible for multimedia and presentation graphics as they are for video production. Real-time effects include:

- Flip
- Tumble
- Warp
- Push On
- Spin
- Page Peel
- Tiles
- Push Off
- Expand
- Mirrors
- Stretch
- Zoom
- Blinds
- Slats
- Curtains
- Mosaic
- Whips
- The Transporter!
- Slide
- Split
- Squeeze
- Pull
- Roll
- Trajectories
- Analog Trails
- Digital Trails
- Zoom Trails

8. Four-Input Production Switcher

Just like the master control room of a TV station, you perform transitions between video sources with a click of your mouse. The Video Toaster Switcher outperforms broadcast switchers costing tens-of-thousands of dollars. It performs cuts, smooth fades, and pattern wipes between any of seven sources including four live video inputs, two 24-bit frame buffers, and a color background generator — ideal for four-camera studio productions or post-production video editing.

Even with no live video sources you can do incredible effects between LightWave, ToasterPaint, and ToasterCG images for exciting presentations.

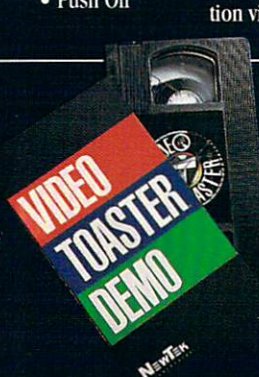
9. ChromaFX Color Processor

ChromaFX gives you complete control over all aspects of brightness, contrast and color of your live video image. Your screen will explode with color negatives, monochrome, solarization, posterization, and color vignettes. Process your video to look like old film with sepia toning or high contrast black-and-white. Or get that rock video look by mixing black-and-white and color video. In addition, many subtle effects are possible, like day-for-night or dark sky filters. Powerful controls let you design your own color effects with limitless combinations, or use any of the dozens of built-in effects like Nuke, Chrome, Snow Lights, Snow Cycle, Sunset Filter, Zebra Stripes and many others.

The VideoToaster card & software sell for $1595 and are available at an Amiga dealer near you.

NEWTEK INCORPORATED

Video Toaster, LightWave 3D, LightWave Modelor, ToasterPaint, ToasterCG, ChromaFX are all registered trademarks of NewTek, Inc. Amiga is a registered trademark of Commodore-Amiga, Inc. Any video tape input to the Toaster must be time base corrected. Toaster compatible time base correctors start at $995 retail. The Video Toaster requires an Amiga 2000 computer with hard drive and at least 5 megs of RAM.



Call today for our demonstration tape about the Toaster, produced entirely with the Toaster.

See for yourself the incredible results possible with the Video Toaster.

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There were many new arrivals at the CES show. Turn to page 68.

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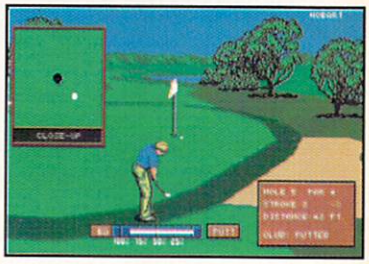
Ernest P. Viveiros, Sr.

Columns



Preparing for a putt in PGA Tour Golf.

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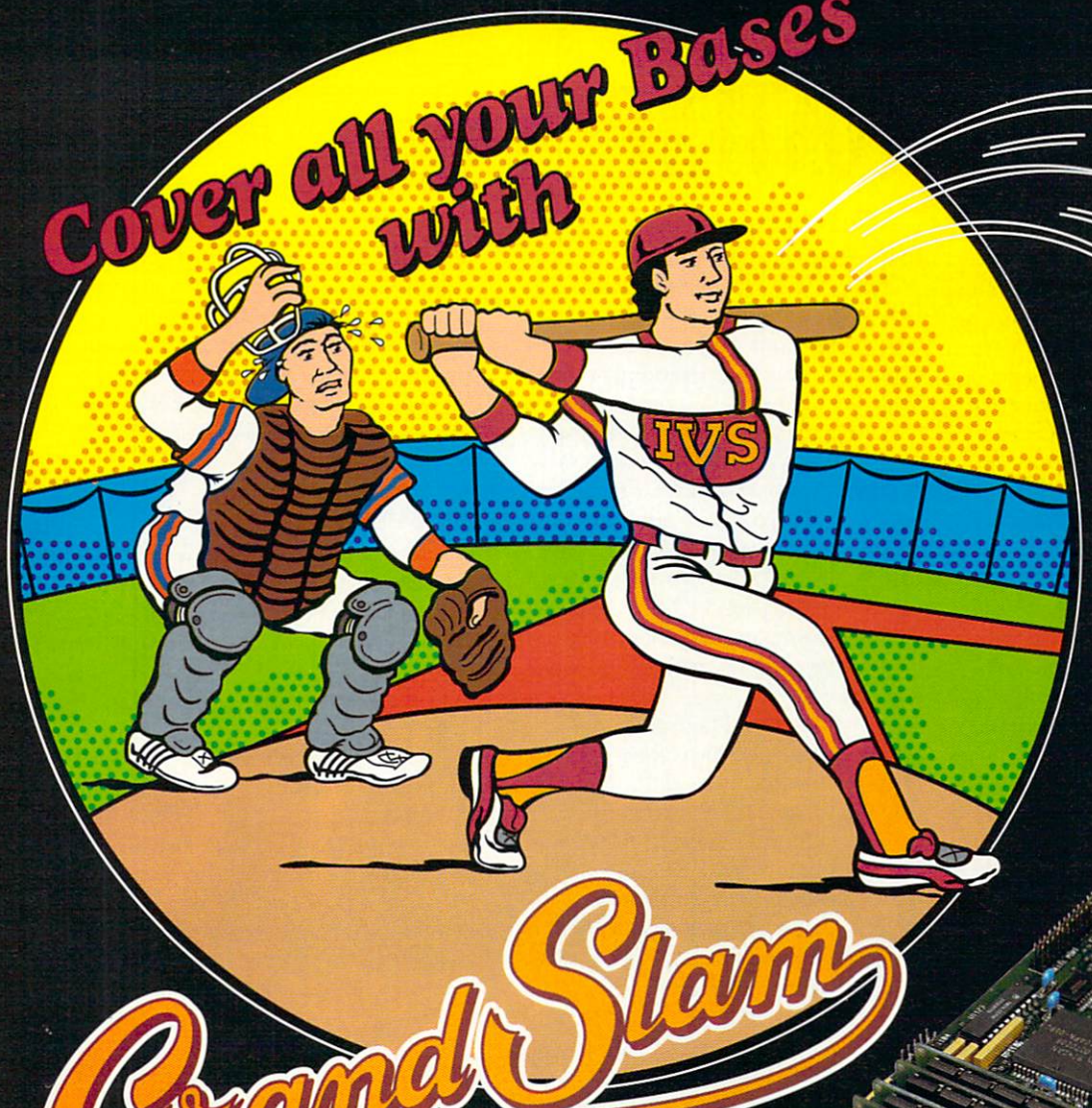

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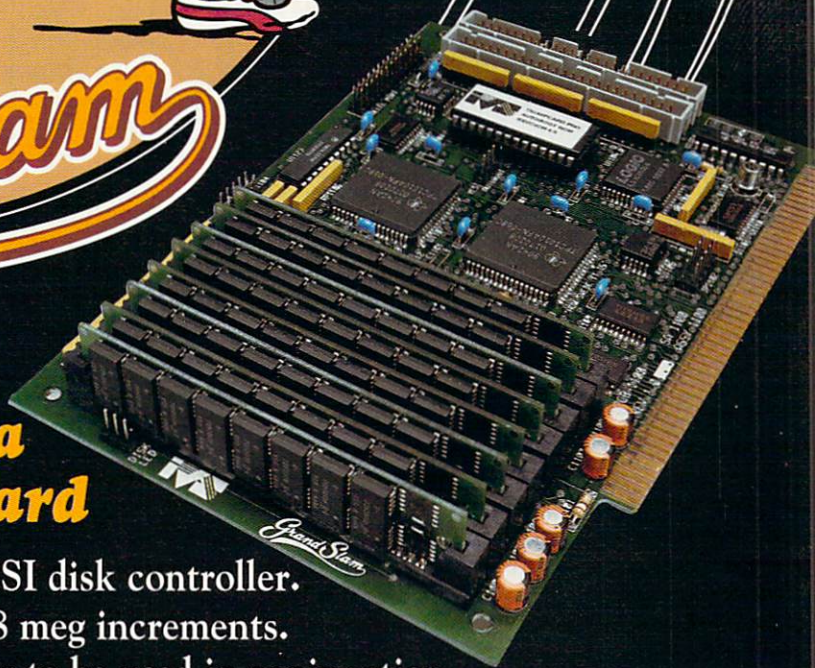

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EDITORIAL CONTENT

OF PLANS AND CHANGES

WHEN WE FIRST PLANNED this issue, we had a problem. We knew that our coverage for the Summer Consumer Electronics Show in Chicago would have to be either in the next issue or planned and spaced for this one. We opted for this issue. But since the show would begin on the day that we normally send our copy to press, we needed to estimate how many pages would be required and then place them in the issue at final proof.

At the time, we believed three pages would be enough. We had just seen Commodore's launch of CDTV in New York in April and we knew that Commodore would be concentrating on CDTV at CES. What could they have accomplished in just six weeks?

As far as the balance of the Amiga market was concerned, we had to weigh the chances of sizeable announcements against the fact that it is summer, a naturally slow period, and it was at the end of an economic recession. How much could they be doing?

The answer to both questions was lots! I have never seen such activity or determination by so many developers to create more for the Amiga market. This CES was an explosion of announcements and surprises.

Of course, with this good news came some bad news. Our three pages allotted for show coverage would be inadequate and there was no time to change. We literally typed the story overnight and placed it in the issue at the last minute. Since *Amazing Computing* is determined to deliver all the news to you as quickly and completely as possible, please note that we will continue this coverage in our next issue.

BLAME CARL SASSENRATH

If anyone is to blame for the fact that CDTV is creating new frontiers it is the people behind CDTV—people like Carl Sassenrath. Mr. Sassenrath, president of Pantaray, Inc., is responsible for two major announcements by Commodore for CDTV. Through his software design, he has been able to provide CDXL, plus compatibility with Kodak's new Photo CD system.

CDXL is Mr. Sassenrath's innovative full-motion video, in CDTV format, without hardware modification. The video is capable of generating 1/3 screen images at about 12-frames-per-second resolution. This patent-pending technology does not use data compression and only requires eight percent of the capacity of the CDTV's 68000 microprocessor. According to Commodore, Mr. Sassenrath has been able to nearly triple the data performance rate from a CD. The potential for this kind of activity is unlimited. It offers the Amiga and CDTV developer the ability to implement full-motion video on portions of the screen in games and simulations.

Kodak's new Photo CD system is Kodak's move into the electronic image market. They have devised a means to store up to 100 35mm photographic images digitally on writable CD-ROM discs. Mr. Sassenrath spent a very quick three weeks developing the software to allow these discs to be used in CDTV. This accomplishment became even more amazing when we learned that Philips has been attempting to implement it into their CD-I player for over a year.

Mr. Sassenrath comes by his knowledge of the Amiga through hard work. He was on the original design team of the Amiga and he came back to Commodore to help design the software interface and drivers for CDTV. Mr. Sassenrath knows the potential of both the Amiga and CDTV, and it shows.

THAT'S NOT ALL

One thing we did not mention in this issue's CES coverage was Psygnosis and a rather dramatic demonstration they developed on CDTV. Instead of working with full-motion video, Psygnosis has tapped the power of fractals and realistic imagery to provide an extraordinary picture of future gaming.

Located as a teaser on the Lemmings CDTV disk, Psygnosis' fractal demo shows a cruise missile which is tracked and followed by a fighter jet. With switching camera angles and very real sound effects, it is hard to designate it as a game or a movie.

What we are witnessing is the ability of the Amiga market to grasp new technological innovations and take advantage of them. The Amiga designers are providing an ever-widening platform for Amiga performance. This not only helps generate new Amiga sales, but brings technology back to the established base of Amiga users.

NO SMOOTH SAILING

The Amiga community is facing another challenge in the next several months. While CDTV is extending its reach and making extraordinary inroads into better technology, CD-I is still receiving press as if it were the only option. Yet CD-I is not shipping.

Philips' CD-I is a separate standard for providing CD computing technology to the mass consumer. When Philips does finally ship CD-I, the consumer will have two choices with different standards.

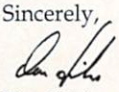
With CDTV, we are able to reach more users with the Amiga format. This means that Amiga developers have a much larger audience. This should drive software prices down and quality up.

Yet, CD-I is its own standard. While it will be able to play CD+Graphics discs like CDTV, there has been no mention that it will play the CD+MIDI disks. It will play the new CD ROM-XA discs for use in Nintendo games which the CDTV, as yet, cannot.

The choices will no doubt become muddled for most consumers. The products look almost identical in design. It will be only through the continued work of organizations like Commodore and Psygnosis and individuals such as Mr. Sassenrath, that the choice between the two formats will become clear.

At CES, I saw a tremendous amount of innovation and commitment to the Amiga and CDTV. CDTV has a difficult task to complete but, after all, these are Amiga people. They are accomplished at overcoming challenges.

Sincerely,



Don Hicks
Managing Editor

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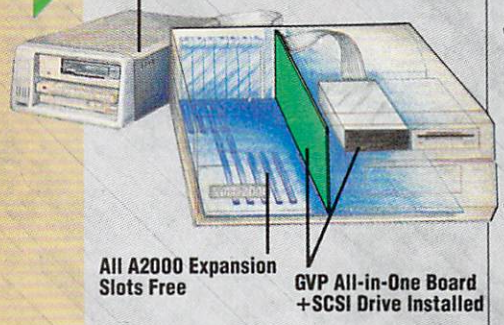

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- ✓ The perfect companion for NewTek's Video Toaster.™
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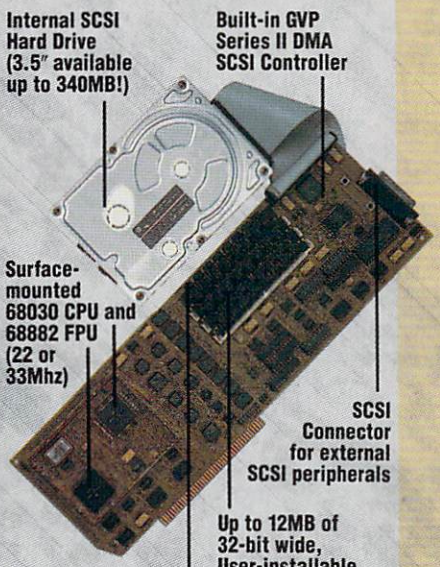
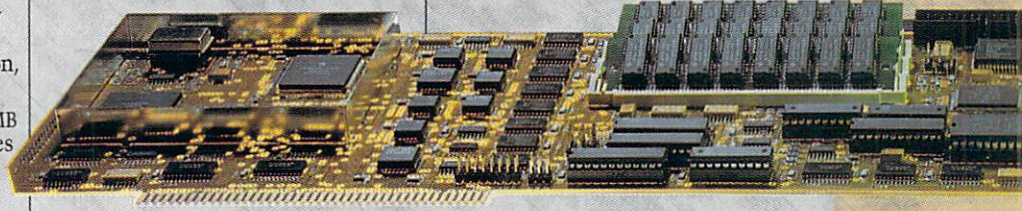
- ✓ Up to 16MB of 32-bit wide memory expansion. 4MB minimum factory installed memory on 33Mhz version, 1MB minimum for 22Mhz.
- ✓ GVP's new custom 32-bit wide, 1MB or 4MB, SIMM32™ memory modules offer flexible, easy-to-install memory expansion. 22Mhz model has 1MB factory installed memory, expandable to 13MB. 33Mhz model has 4MB factory installed memory, expandable to 16MB.
- ✓ On-board high-performance "Series II" auto-booting SCSI controller with factory installed FAAASTROM SCSI driver and SCSI connectors for attaching both external and internal SCSI peripherals.
- ✓ Direct DMA access to the full 16MB range of 32-bit wide memory expansion by the on-board SCSI controller. Due to the A2000 bus architecture, this is ONLY possible when SCSI controller is placed directly on the 68030 CPU bus (as is the case with the A3000!). Provides ultimate SCSI hard disk performance!
- ✓ GVP's legendary FAAASTROM SCSI driver supports virtually all SCSI devices currently on the market, including hard disk drives, CD-ROM drives, Magneto-Optical drives, removable media drives and tape drives.
- ✓ Switch to 68000 mode by simply clicking on our new "68000 Mode" Icon, or include our special "mode switching" utility in your startup-sequence and select required mode each time system is rebooted, by holding down mouse buttons.
- ✓ Provides the ultimate expandability of your A2000 system. Plugs into the "CPU accelerator" slot, thereby leaving ALL FIVE A2000 expansion slots free for future expansion.





COMPARE:	A2000 +GVP All-in-One	Commodore A2500/30	Commodore A3000®
68030 CPU and 68882 FPU	Y	Y	Y
Maximum CPU clock speed available & shipping TODAY	33Mhz	25Mhz	25Mhz
Maximum 32-bit wide FAST memory on 68030 CPU board	16MB	4MB	16MB
Direct DMA access to more than 8MB of fast memory	Y	N	Y
DMA SCSI controller built-in on 68030 CPU board	Y	N	Y
Number of open Amiga expansion slots with 68030 CPU, SCSI controller and more than 4MB fast memory installed	5	3	4
RAM upgrades through easy-to-install 32-bit wide SIMM memory modules	Y	N	N

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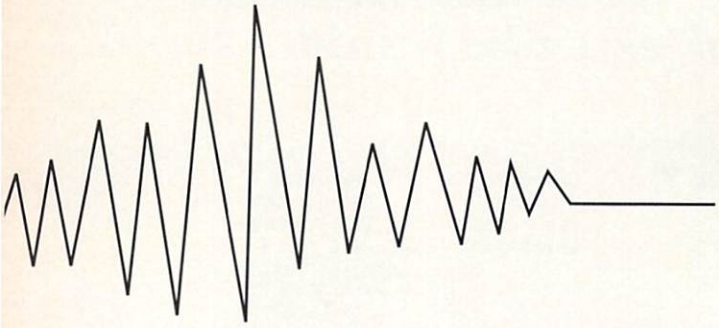

Feedback

Atari ST vs Amiga 2000

I am getting sick and tired of the Atari ST bashing that I have seen in the Amiga press. In the two-and-a-half months that have elapsed since I sold my ST and bought an Amiga 2000 not a day has passed when I haven't wished, at some point, that I had my ST back. Why? The ST is just plain easier to use. It is also much cheaper and it comes with a real megabyte (none of this CHIP RAM versus FAST RAM garbage). No, I'm not about to sell my 2000 and return to the ST; the 2000 does have an edge in the areas that I am interested in as an artist, though I do wish there was an animation program available similar to Antic's Cyber Paint. On the other hand, Spectracolor makes DEGAS Elite look anemic. The ST is superior to the 2000 in some areas and at least equal in others. The stock 2000 is slower than the ST. I had a PD spreadsheet for the ST (Opus) that was full-featured, fast, and easy to use; but the nearest equivalent that I have found for the 2000 is slow, cumbersome, and limited. I have had similar experiences comparing other pieces of PD software between the two machines.

I think that it is nit-picking to complain that the two monitors are necessary if one wishes to work with lo-res and hi-res on the ST. If you are working with video on the Amiga, you should have two monitors, too.

There are just as many dedicated ST users who bash the Amiga as there are Amiga owners who bash the ST, and I think it is because both camps feel insecure and threatened by the other. The fact is, and I think that anybody who is familiar with both machines would agree, neither machine is as good as it could be and a hybrid combining the best features of both would be an unbeatable combination.

Robert Longley
Delmar, NY

Video Toaster/Amiga 2000

I would like to comment on your brief "And Furthermore..." article in the May 1991 issue of *Amazing Computing* which described the new Video Toaster/Amiga 2000 package being offered by NewTek. I don't know much about video-effects generation, but I think there is one very important implication of this new product which you did not mention in your article. This implication is important not for the video professional, but for the rest of us computer users.

By releasing this new product, NewTek has demonstrated that for about $4000, one can buy a very nice computer (the Amiga 2000) with incredible graphics capability (the Video Toaster board). Four thousand dollars is towards the higher end of prices for personal computers (PC's, Mac's. Amiga's, etc.) but certainly not extraordinary. It should be possible, then, to build a reasonably-priced personal computer which uses the NewTek Video Toaster as its normal display device. All the features of the Video Toaster could then become a part of the operating system, available to all applications. I'm sure that the Toaster hardware would have to be modified somewhat.

If someone were to develop such a computer (perhaps a second generation of Amigas), it would certainly set a new standard for personal computer display capabilities. Can you imagine the types of applications which could be developed for a computer which has the Video Toaster as its display device? I want my windows to shrink and spin into the background when I close them, not to mention being able to monitor the 6:00 p.m. news on-screen

→

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* Commodore standard. Applied Engineering's HD floppy does NOT work with some versions of Kickstart 2.0 at this time.

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while I type a letter in my word processor. NewTek has started down this path with their new Toaster/Amiga package—I hope that someone else takes the ball and runs with it!

Carl Nagy
Orange, CA

MaxiPlan 3

Can you tell what has happened to MaxiPlan 3 by Intuitive Technologies? I called their phone number and it was answered by an answering machine. It said that technical support for MaxiPlan 3 is no longer available. Also, the April issue of AC had a product announcement for MaxiPlan Plus (p. 8) by the Disc Company. Can you tell me what has happened?

Bob Lockie
Burlington, Ontario, Canada

According to a spokesman at the Disk Company, technical support for MaxiPlan 3 by Intuitive Technologies is not available. There is support only for MaxiPlan Plus V2.0, as MaxiPlan 3 is no longer being produced.—Ed.

Timely Answers

Your May issue of *Amazing Computing* was right on time for me in a couple of instances.

I've been debating which desktop publisher to purchase for quite some time and your feature "The Big Three in DTP" helped me to arrive at a decision. Your story offered one of the finest comparisons of PageStream 2.1, Professional Page 2.0, and Saxon Mataka did a fine job of highlighting the pros and cons of each package and his summary clearly identifies which package better fits the needs of professional and intermediate users. All my DTP questions have been answered.

In addition, your article "Bridgeboards and Expansion Systems" answered many questions for me. Armed with the information and recommendations in Mark Pardue's feature, I can better plan my future purchases in that area.

Donnie R. Veasey
Montgomery, AL

Comparative Tables Wanted

I was interested in your review of Desktop Publishers (May 1991). I purchased PageStream 2.1 in early March and have been in contact with Soft-Logik's Technical Support and Development groups regarding problems importing Professional Draw structured graphic clips. While in your review you claim that all three DTPs support importing ProDraw clips, PageStream 2.1 changes attributes of PDraw clips when imported. Try drawing a circle in PDraw with some lines touching it. When the clip is imported into PageStream, the circle won't be round, and the lines won't be touching it. Other attributes such as shading and line widths are also changed. Some clips import properly, but then only parts print. Soft-Logik claimed this was due to the way ProDraw handled circles and couldn't be corrected. Your review doesn't touch on any of these problems. I was drawn to PageStream because of its many powerful features and its use of Adobe Type 1 fonts, but since I extensively use Professional Draw, it loses a lot of its usefulness.

By the way, graphics can be imported directly into PageStream without using a separate screen. The review could have also included the current inability to print landscape pages from Professional Page 2.0 to Preferences printers like HP-LaserJets, and references could have been made to its abysmal speed (even on an A3000/25) when printing.

These reviews need a bit more meat with detailed tables comparing features similar to *PC* or *BYTE*.

M.P. Wagner
Fort McMurray, Alberta, Canada

Thank you for your suggestions. As you know, AC has continually improved its coverage of products and the addition of comparative tables is one feature we have used. We will make an extra effort to see that this continues.—Ed.

All letters are subject to editing. Questions or comments should be sent to:

Amazing Computing
P.O. Box 869
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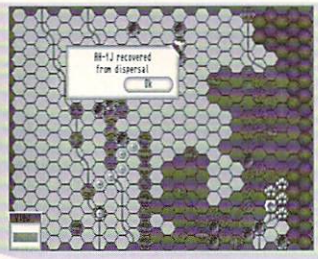
Attn: Feedback

Readers whose letters are published will receive five public domain disks free of charge.



Brigade Commander

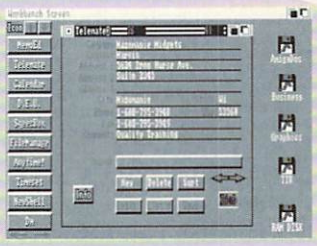
Brigade Commander is a real time war game pitting the player against a computer opponent. It thinks and acts on its own, in real time. Units maneuver and attack under their respective commanders. Brigade Commander has a built in unit/scenario editor, multi-screen maps, utilizes full digitized sound, and has animated weapon firing. Desert Storm Data Disk Included.

Dedicated to the Men and Women who haved served or are serving in the Armed Forces of the United States of America.

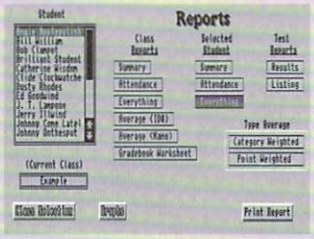
We would like to just say thank you!

Workbench Management System v2.0

Workbench Management System (WMS) is a revolutionary new idea in software for the Amiga computer. WMS is designed to meet the needs of the new and experienced user alike. In WMS we created a friendly and easy to use system that requires a minimum amount of work and very little time to learn. WMS is a button concept that requires only a single click to execute an application. Before WMS, you needed to open your disk and drawers to launch an application, NOW a single click launches your application!



Teacher's Toolkit



A Complete Classroom Management System

Teacher's Toolkit takes the drudgery out of the everyday paperwork tasks by providing an integrated set of tools with a special emphasis on ease of use. With the Teacher's Toolkit, the classroom teacher can manage grades, analyze student and class performance, compose lesson plans, keep appointments, write notes to parents, and keep track of important phone numbers. Teacher's Toolkit offers unprecedented flexibility, supporting the needs of the elementary, secondary, and college teachers. The gradebook handles an unlimited number of students and supports both point and weighted-test grading systems.

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1ST PRIZE TOASTED FONTS

Now available from **Allied Studios** is **1ST Prize Toasted Fonts** for use with the Video Toaster. The fonts have crisp, clear characteristics with minimal pixel jaggies, uniformity of proportions, and legible default kern letterspacing optimized for video technology.

The fonts are to be used in the Toaster CG SCROLL & CRAWL pages only. Customers are also given an opportunity to acquire the original bitmaps from which these Toasted Fonts are created so their investment is protected by allowing them to achieve uniform results from their other Amiga software and hardware.

The fonts may be used in Toaster Paint, Digi-Paint, PhotonPaint, DeluxePaint III, Video Titler, TV-Text, AmigaVision, ProWrite, and Pen Pal as well as many other applications. It is recommended that the font sets be installed by a dealer or a service technician. Support is provided via the phone from Allied Studios. *Suggested retail price: $69.95/package or $349.75 for the 228-font set. Allied Studios, 482 Hayes St. San Francisco, CA, 94102, (415) 863-1718. Inquiry #220.*

SCANNERY

From **Concise Logic** comes an update to their **Scannery** scanner software for the Amiga and the Hewlett-Packard ScanJet. The biggest change in the software is that the Scannery now supports the HP Scanjet Plus. Other changes in the Scannery include Workbench 2.0 compatibility, 256 greyscales, and support for TIFF format files. Images may now be saved in VEPS (Viewable Encapsulated PostScript) file format also. This allows an application to display a low-resolution image on screen and print the high-resolution PostScript image at print time.

The Scannery allows you to adjust scales, resolution, and brightness for optimum image control and allows for a full-page preview. You can also clip images to any size. Scanning options include black and white and 16 greyscales, four dither patterns, and inverted images. IFF, EPS, PCL, and FAX graphic file formats are supported. Repetitive tasks can be automated with the ARexx macro capability. You can merge scanner data with data from any other ARexx-compatible application program.

Scannery is compatible with any Amiga 500, 1000, 2000, or 3000. A connector cable is included with the package which can be used with the A500, 2000, or 3000. Special adapters for the A1000 can be ordered from Concise Logic. Scannery also requires an HP ScanJet or HP ScanJet Plus. *Suggested retail price: $ 250.00. Scannery, Concise Logic, 36 Tamarak Ave., Ste.315, Danbury, CT 06811, (203) 746-6739. Inquiry #221.*

STUDYWARE FOR THE SAT

StudyWare for the SAT will be available for the Amiga this August, just in time for the fall testing season. **StudyWare Corporation** joined with **Cliffs Notes**, the nationally recognized study aid publisher, to produce the application. A copy of Cliffs' SAT Preparation Guide will be included with every package. The Cliffs book has been integrated into the software design by having the computer score and diagnose both full-length tests from the Cliffs book. This feature insures accurate test scores and allows the user to pinpoint his weak and strong areas easily.

Twenty-nine different SAT topics will be covered with over 800 on-screen questions, two StudyWare and two Cliffs Notes full-length exams, and complete on-screen explanations for correct and incorrect answer choices. StudyWare for the SAT will also feature true math symbols, graphs, and hints on-screen. A handy on-screen glossary will be available with a keystroke or a mouse click. For keeping track of one's improvement, progress reports and charts can be generated and printed out at the end of every test.

StudyWare for the SAT will run on any Amiga 500, 2000, 2500, or 3000 with at least 512K of RAM and two floppies or 1 floppy/hard drive combination. The program is compatible with Workbench 1.3 or higher. *Suggested retail price:$49.95. StudyWare for the SAT, StudyWare Corporation, 4760 Murphy Canyon Road, Suite A, San Diego, CA 92123, (619) 495-0190. Inquiry #222.*

F-29 RETALIATOR

Ocean Software Limited and **Electronic Arts Distribution** have announced the availability of F-29 Retaliator, a realistic action game for the Amiga. Choose a death-defying dogfight from the fully loaded cockpit of a futuristic F-29 in this aerial treat from Ocean Software.

Identify and destroy the enemy. This is the ultimate in futuristic flight simulation. Fly the forward swept wing F-29, whose advanced avionics are revolutionizing aviation history. Or, fly the lethal F-22 ATF Advanced Tactical Fighter. Just log in and the action begins. Choose your aircraft, arm your fighter, and lead your squadron into the sky. There are four battle scenarios, and 100 different missions. Dogfight aerial opponents, make surgical strikes against land-based targets, and attack the enemy on sea and land.

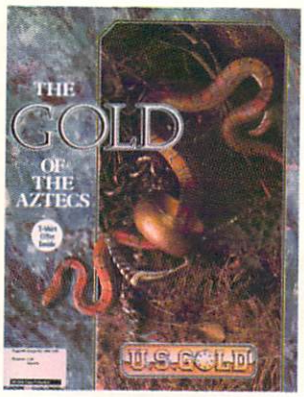
F-29 features the latest aerodynamic technology, ECOP controls, backwinder AAMS (Air-to-Air Missile System), supercruise, stealth, real-time cockpits and external viewpoints. *Suggested retail price: $49.95. F-29 Retaliator, Electronic Arts Distribution, 1810 Gateway Drive, San Mateo, CA 94404, (415) 571-7171. Inquiry #223.*

GOLD OF THE AZTECS

Parachute into the dense jungles of the Yucatan Peninsula to search for the legendary tomb of Quetzalcoatl and the riches of gold buried there. In **Gold of the Aztecs**, you become Bret Conrad, a retired Special Forces member who served in Vietnam. Conrad has inherited an ancient map drawn by Don Juan Lopez Marabella who recounts the disappearance of 300 Conquistadors in the year 1615 as they searched for the famous treasure. His story

tells of locating wealth beyond a man's wildest dreams. As far as anyone can tell, it remains buried in Quetzalcoatl's tomb with Don Juan's minions. With map and pistol in hand, hitch a ride into the jungle and begin your quest for the gold.

Luckily, Conrad is an agile adventurer who starts the game with six lives and the ability to make various evasive moves. Along with his physical attributes, the weapons he has at his disposal include a pistol, a bow and arrow, and a machété for close fighting. There are a



number of different ferocious creatures you will meet along your way. You must anticipate your moves and be ready to fight at any moment. *Suggested retail price: $49.95. Gold of the Aztecs, Inquiry #206, U.S.Gold, 550 S. Winchester Blvd., San Jose, CA 95128, (408) 246-6607.*

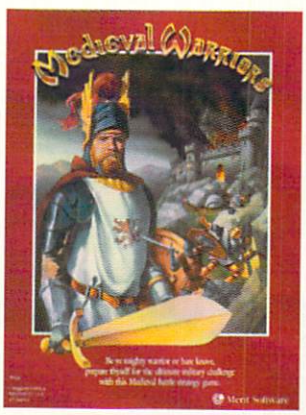
MEDIEVAL WARRIORS

A challenging new game from **Merit Software** involves using military strategy and skill in a medieval setting to battle off opposing armies. In **Medieval Warriors**, the player is given control of an army of 12 men. Armed with a bow, knife, axe or sword, the warriors fight and move on command. Users may play against the computer or another player either on a single computer or with two computers via a modem.

Medieval Warriors provides the ultimate war strategy game. Each of your warriors is personalized and possesses a particular skill, unique movement abilities, and specialized weapons skills. There are several battle fields to choose from, each with individual qualities needing a different strategic approach. Each of the battlefields provides the choice of four different engagement scenarios. The program also allows you to save a game at any time to be continued later or perhaps even studied or replayed. *Suggested retail price: $49.95. Merit Software, 13635 Gamma Road, Dallas, TX 75244, (214) 385-8205. Inquiry #207.*

ARMOUR-GEDDON

From **Psygnosis** comes **Armour-Geddon**, a futuristic flight and tank-simulator. Armour-Geddon is not just a simple vehicle simulator; it also includes a strong strategic element. You must pilot your futuristic aircraft and drive your tanks through fierce battle to save what's left of a post-holocaust Earth. Placed in charge of a team of engineers and scientists, you must locate and destroy a doomsday weapon created by renegade terrorists. You must devote your limited resources to developing new vehicles and weapons including a neutron bomb, the only weapon powerful enough to wipe out the energy beam.



Skill and strategic maneuvering is required to negotiate the rough terrain while searching for the parts needed to complete the neutron bomb. A huge virtual playing environment of complex, real-time, solid 3-D forms is your battlefield. The six vehicle types—Light Tank, Heavy Tank, Hovercraft, Stealth Fighter, Stealth Bomber, and Helicopter—can be armed at the outset with missiles, rockets, shells, and lasers and can later be outfitted with more exotic devices such as night-sight, extra fuel tanks, cloakers, and your own high-tech creations.

Vehicles are controlled by mouse, joystick, or keyboard and each has distinct and realistic characteristics. You can get a first-person perspective from inside the vehicle, view it and the surroundings from many different exterior angles, and even have a satellite view. *Suggested retail price: $49.99. Armour-Geddon, Inquiry #208, Psygnosis, Ltd., 29 St. Mary's Court, Brookline, MA 02146, (617) 731-3553.*

ATOMINO

An entertaining brain-teasing game from Psygnosis, **Atomino** is an innovative cross between dominoes and an electronic brain teaser. Atomino offers a wonderful stereo soundtrack, crisp graphics, and intuitive game play. Your objective is to form molecules from the atoms which keep generating in your test tube. However, this deceptively simple goal is littered with increasingly difficult restrictions. There are limits to the finished molecule's size, structure, and shape; and there's a time limit too!

Atomino features multi-level game play from extremely easy to unbelievably difficult. There are over 60,000 levels of play. Free sample atoms are included with each game. The combination of features is sure to form a chemical bond between you and your Amiga. *Suggested retail price: $49.99. Atomino, Inquiry #209, Psygnosis, Ltd., 29 St. Mary's Court, Brookline, MA 02146, (617) 731-3553.*

AMI-BACK

Ami-Back from **Moonlighter Software** is a new comprehensive hard disk back-up utility for the Amiga. It is designed to take advantage of the new AmigaDOS 2.0 operating system.

Ami-Back is able to back up data to floppy drives, high-density floppies, hard drives, SCSI tape drives, or to a specific AmigaDOS file or device. The program gives the user the opportunity to exclude up to 100 files from the process. Also included with the backup process are a standard restore mode and a compare mode option which allows you to compare previously backed-up data to your current data in case you suspect a possible loss. This allows you to easily locate problems by seeing which files have changed and how they have changed.

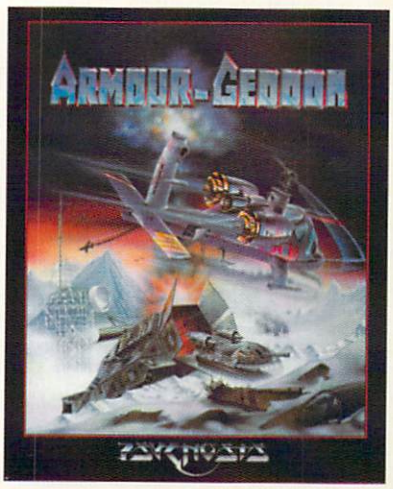
new products & other neat stuff

Also included with Ami-Back is Ami-Sched, a user configurable scheduler. Use Ami-Sched to control automatic backups whenever your computer is powered up. You are able to schedule these special backups anywhere from once a year to once an hour. Ami-Back works with AmigaDOS 2.0 and requires a minimum of 512K RAM. An AmigaDOS 1.3-compatible version is included with the 2.0 version. *Suggested retail price: $79.95. Ami-Back, Moonlighter Software, 3208-C East Colonial Drive, Suite 204, Orlando, FL 32803, (407) 628-3005. Inquiry #210.*

BANE OF THE COSMIC FORGE

In the tradition of "Wizardry" comes **Bane of the Cosmic Forge** from **SIR-TECH Software, Inc.** Cosmic Forge is a fantasy role-playing game set in the medieval period. Players develop six characters capable of surviving the rigors presented in this challenging world. Characters may be chosen from one of 11 ranges including Elf, Gnome, and Dwarf. Basic statistics are assigned including speed, dexterity, personality, and intelligence. The player follows by choosing the character's sex and race.

The game features full color 3-D worlds, great sounds, and special effects. There is a beginner difficulty level, multiple fighting modes, non-player characters, and hundreds of creatures and items. The game is hard-disk



supported, has no on-disk copy protection, and is mouse supported. It also features a game-save option.

Bane of the Cosmic Forge is available for the Amiga 500, 1000, 2000, and 3000 and requires at least 1MB of RAM. *Suggested retail price: $59.95. Bane of the Cosmic Forge, Sir-tech Software, Inc., P.O. Box 245, Ogdensburg Business Center, Ste. 2E, Ogdensburg, NY 13669, (315) 393-6451. Inquiry #211.*

GUNBOAT RIVER COMBAT SIMULATION

The first true river-based simulation game for the Amiga, **Gunboat** puts the player in command of a fully functional high-speed river patrol boat (PBR) as the crew embarks on over 20 different missions in Vietnam, Panama, and Columbia. This powerful river combat vehicle will travel at over 35 knots in 18" of water and turn 180° in an instant. In Gunboat, you board the craft, select a payload, and choose from a first-person perspective or a chase-boat view to execute a variety of heated day and night missions. Rescue POW's in Vietnam, bust drug runners in Columbia, and apprehend insurgents in the Panama Canal Zone. Missions are action-packed as you are besieged by continuous enemy fire from the air, the water, and the river banks.

The game has been specially designed with a unique fish-eye view that gives the player a wider and more sobering view of the action. This wide-angle view of Gunboat's world, rendered with 3-D, polygon-filled terrain and enriched with 3-D bit mapped graphics, helps to create a realistic smooth-scrolling dimensional environment. Gunboat offers a training mode to allow the user to become familiar with the craft and its weapons. Once you are ready to play, choose your mission, choose your station, choose your weapon. An overhead map assists you in your strategy to plot a main course and alternate courses to the mission's objective.

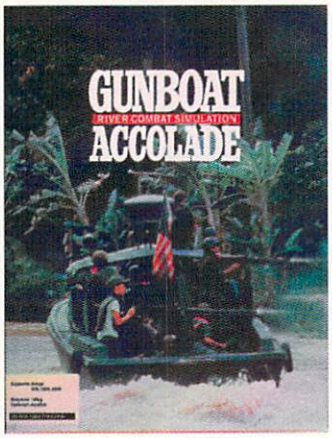
Gunboat can run on an Amiga 500, 1000, or 2000 with at least 1MB of RAM. *Suggested retail price: $49.95. Gunboat: River Combat Simulation, Inquiry #212, Accolade, 550 South Winchester Blvd., San Jose, CA 95128, (408) 985-1700.*

JACK NICKLAUS PRESENTS THE MAJOR CHAMPIONSHIP COURSES OF 1991

This is the latest add-on for the Jack Nicklaus series of golf simulations from **Accolade. Jack Nicklaus Presents the Major Championship Courses of 1991** contains simulations of the host grand slam courses of this year's U.S. Open, British Open, and PGA Championship. The product presents computer golf fans with the opportunity to play on the same courses the professionals will play on this summer and challenges them to beat the scores of their professional counterparts.

The courses featured are Hazeltine National Golf Club, site of this year's U.S. Open; the Royal Birkdale Golf Club in Southport, England, site of the British Open; and the Crooked Stick Golf Club in Carmel, Indiana, site of this year's PGA Championship. Each simulated course features the same layout as their real-life counterparts right down to the last sand trap.

The program is compatible with the other add-on disks to be used with Jack Nicklaus' Greatest 18 holes of Major Championship Golf and with the gameplay segment and related features in Jack Nicklaus' Unlimited Golf and Course Design. *Suggested retail price: $21.95. Jack Nicklaus Presents the Major Championship Courses of 1991, Inquiry #213, Accolade, 550 South Winchester Blvd., San Jose, CA 95128, (408) 985-1700.*



MOX-600 SYSTEM

New from **Xetec, Inc.** comes the MoX-600, a high-capacity storage system. This Magneto-Optical drive system contains the Ricoh rewriteable optical disk drive in a space saving tower boasting an auto-switching, 100 volt power supply. One full or two half-height bays remain available for future expansion. This system includes a 600 MB removable cartridge so that the use of additional cartridges allows for unlimited storage capacity.

Other features include a rugged all-steel-case construction for long lasting durability, efficient cooling fan with filter, a cable harness and complete mounting hardware. There is also an AC line filter. *Suggested retail price: $3600.00. Additional cartridges: $229.00. MoX-600, Xetec, Inc., 2804 Arnold Rd., Salina, KS 67401, (913) 827-0685. Inquiry #214.*

The MoX-600 System from Xetec includes a 600MB removable cartridge

AMERICAN VISTA MULTIMEDIA ATLAS FOR CDTV

New from **Applied Optical Media Corporation** is the **American Vista Multi media Atlas for CDTV**. American Vista provides a world of excitement and discovery. Maps of each state illustrate political, topographical, industrial, and agricultural features. Professionally photographed images display people and places from each state and our nation's capital. Many examples of regionally specific speech and our folk music heritage are also included.

Further details include statistical information and history for each state along with state seals, flags, flowers, animals and licence plates. Historical maps and flags along with pictures and detailed captions of each President are also featured. Materials provided by Hammond Incorporated and the Smithsonian Institution.

The atlas will be packaged in an easy-to-use hypermedia format developed especially for CDTV. *Suggested retail price: $79.95. American Vista, Applied Optical Media Corporation, 18 Great Valley Parkway, Malvern, PA 19355, (215) 889-9564. Inquiry #215.*

CIRCUITS AND SOFTWARE

A CDTV-to-A2000 adapter cable is now available from **Circuits and Software**. The cable allows you to connect an A2000 keyboard to Commodore's CDTV interactive multimedia machine. The three-foot cable lists for $19.95.

Also from Circuits and Software is the **DIGI-SOUND** stereo audio digitizer. DIGI-SOUND features left and right line inputs and gain controls and a stereo microphone jack. It is perfect for use with Audiomaster and most other commercial and public domain sampling software. DIGI-SOUND works with the Amiga 500, 2000, and 3000 and is also CDTV-compatible. DIGI-SOUND lists for $59.95. *Circuits and Software, 1052 Estates Court, Stockbridge, GA 30281, (404) 389-3875. Inquiry #217.*

CHROMALUX

Now available from **Westgate Enterprises** is a new technology from Finland for state-of-the-art lighting. **Chromalux** lightbulbs are made from hand-blown glass containing Neodymium, a rare element used in space technology. The Neodymium has a unique ability to absorb yellow and other dulling components of the spectrum, allowing colors to be equally bright to the human eye. The result is a full spectrum light that not only illuminates, but simulates the characteristics of natural sunlight. This pure white light offers a variety of health and aesthetic benefits.

With enhanced black and white contrast and the absence of glare, eye comfort, readability, and concentration levels are improved. These lights are particularly useful for people who spend many hours reading or doing detail work where eyestrain is common. Chromalux light purifies colors and improves contrast and detail.

Chromalux bulbs may be used with any standard lamps or existing fixtures. The bulbs are available in the popular sizes from 25 watts to 150 watts. They come in frosted or clear and in a variety of shapes and styles. A similar line is also available for fluorescent fixtures. The average lifespan of the Chromalux bulb is 3,500 hours—almost five times longer than regular bulbs—which is about two years with daily use. For more information on Chromalux, contact *Westgate Enterprises, 2407 Wilshire Blvd., Ste. 211, Santa Monica, CA 90403-5800, (213) 477-5891. Inquiry #202.*

ROTOX

U.S. Gold has released **Rotox**, an arcade adventure in which players control the actions of a Cyborg Class 2-A alone on a hostile landscape in free space. Rotox features an entirely new 360° rotating environment called Rotoscape. On a world that revolves around the stationary Cyborg, players carefully and strategically rotate the landscape left and right, forward and backward to bring the action to the cyborg.

Ten specially constructed landscapes, each with nine separate sectors, provide a nightmare environment of deadly machines and hostile life forms. You must carefully maneuver yourself through all ten levels, gathering weapons with which to make your escape. Otherwise, be destined to wander this artificial environment forever.

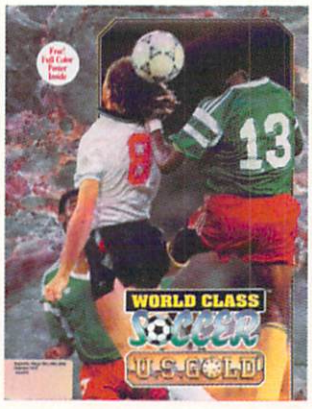
The ten levels offer non-stop action and challenging play. Passage between levels isn't simple. You must first eliminate all the creatures on a level and then negotiate a perilous passage to the next level only to be met immediately by even more angry aliens. There is no time to rest in Rotox. *Suggested retail price: $49.95. Rotox, Inquiry #203, U.S. Gold, 550 S. Winchester Blvd., San Jose, CA 95128, (408) 246-6607.*

WORLD CLASS SOCCER

Computer soccer fans don't have to wait for the World Cup to come to the U.S. in 1994. A seat is reserved for them now with the release of **World Class Soccer** from **U.S. Gold**. World Class Soccer simulates the 1990 World Cup competition and puts players in control of the 24 actual teams and players who made up the 1990 games.

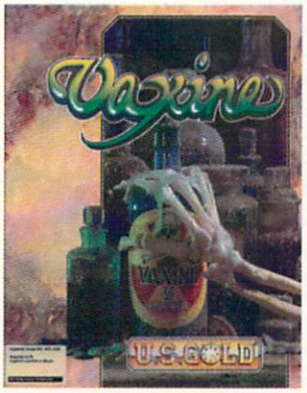
The destiny of the trophy is in your hands as you select the country you will represent, the 11 players for your line-up, and the position each will play in the tournament. In this one or two-player game, you are given the choice to play team against team with your opponent or play through an entire tournament for the World Cup championship. There are 24 different international teams, each represented by 20 real players who are rated according to skill, speed, strength, and aggression. You control the player closest to the ball during play. The game also gives the user the control over the length of the match—anywhere from two minutes to 45 minutes.

The World Cup Soccer manual is filled with soccer information and trivia including histories and statistics on every one of the players who qualified for the 1990 championship—the same players who are featured in the game. Additionally, the manual contains an account of the 1990 tournament itself allowing coaches to compare their teams' performances to those of a real tournament. *Suggested retail price: $44.95. World Class Soccer, Inquiry #205, U.S. Gold, 550 S. Winchester Blvd., San Jose, CA 95128, (408) 246-6607.*



VAXINE

Also just out from U.S.Gold is **Vaxine,** a rapid fire arcade game which injects players into the body of the country's President to combat a marauding strain of virus now threatening to overwhelm his life-support organs. In the same vein as the hit movie *Fantastic Voyage*, players get a larger-than-life first-person perspective as they move across a vast horizon teaming with swiftly multiplying enemy cells.



The body of the President is represented by a grid upon which live his nine life-sustaining base cells. As you pilot your craft across this grid, you must protect these cells at all costs from the hordes of parasitic enemy cells which are rapidly multiplying. To combat the cells, you are provided with three arsenals of firepower, each one corresponding to a different color enemy cell. You must continually match your arsenal with the corresponding enemy cell. If you attack the cell with the wrong color, the cell with flourish and your ammo will dwindle. Vaxine has plenty of arcade-style action and great sound and graphics. *Suggested retail price: $39.95. Vaxine, Inquiry #204, U.S. Gold, 550 S. Winchester Blvd., San Jose, CA 95128, (408) 246-6607.*

NEW HORIZONS

New Horizons announced the acquisition of **Central Coast Software** of Golden, Colorado. CCS publishes a line of powerful and easy-to-use utility software for the Amiga including Quarterback, Quarterback Tools, Dos-2-Dos, and Mac-2-Dos. Under this acquisition, CCS will become a division of New Horizons Software, Inc. All development, production, customer support, sales, and marketing activities of CCS will be moved to Austin, TX. *New Horizons Software, Inc., P.O. Box 43167, Austin, TX 78745, (512) 328-6650.*

LOST PATROL

New from Electronic Arts Distribution is **Lost Patrol**, a battle game which requires skill and determination to survive. Your mission is to lead a group of soldiers across 57 miles of harsh terrain, infested with booby traps and enemy forces. With little food and less ammunition, the chances of reaching a safe haven are slim. As their leader, you'll need to ensure their survival.

You determine when and where they move; how fast they walk; and a hundred other details on which their lives depend. You deploy your troops and are the sole judge of their fighting skills. You are responsible for their morale. Decide when to dig in for battle skirmishes or when to retreat. Send out scouts and look for "friendlies" or the enemy. And if the thought of dealing with the enemy isn't enough, you just got the suspicion that one of your men is psycho. Welcome to the Army. *Suggested retail price: $49.95. Lost Patrol, Electronic Arts Distribution, 1810 Gateway Drive, San Mateo, CA 94404, (415) 571-7171. Inquiry #224.*

new products
& other neat stuff

KB-TALKER

Co-Tronics Engineering recently unveiled their first product in the Amiga market—the **KB-Talker**. The KB-Talker is a keyboard interface adapter that allows standard IBM PC-AT-compatible keyboards to be used with the Amiga. Presently, only one keyboard layout style is available but plans are to have several keymap styles user-selectable. This keymap is arranged to more closely match the keymap of the Amiga keyboard itself with respect to the placement of several selected keys. No software is needed and the unit is transparent to the user. *Suggested retail price: $64.95. KB-Talker, Co-Tronics Engineering, P.O. Box 1231, St.Louis, MO 63074, (314) 429-2644. Inquiry #225.*

BARNEY BEAR GOES CAMPING

From **Free Spirit Software** comes another in the Barney Bear collection of children's learning programs. Barney Bear and his family have decided to go camping. Take a walk with Barney, his father, and his dog Skippy. You'll get to see animals, birds and fish along the way. You can even take pictures of the all the sights you see. When you get back to camp, watch a slide show of the pictures you took.

Barney Bear Goes Camping is the perfect program for young children. No reading is required; there is no disk swapping and all menus are point-and-click pictures. Children can understand what to do and how to do it. The variety of activities will keep them coming back for more. They will learn about the computer and about nature as they play. A matching game, dot-to-dot, and a maze are among the games included in this program. Barney Bear Goes Camping also has a basic paint program where the user can color pre-drawn pictures or create his own artwork.

The program will run on any Amiga 500, 1000, or 2000 with at least 1MB of RAM. *Suggested retail price: $34.95. Barney Bear Goes Camping, Free Spirit Software, P.O. Box 128, 58 Noble St. Kutztown, PA 19530, (215) 683-5609. Inquiry #226.*

CARPAL.EEZ

Long hours of computer data entry without proper wrist support can aggravate the median nerve, resulting in a disorder known as Carpal Tunnel Syndrome. Symptoms include tingling, stiffness, numbness or pain in the fingertips, and possible permanent discomfort and disability. A recent U.S. Labor Department report found that these types of "repetitive motion disorders" accounted for 43% of all workplace illnesses.

Carpal.Eez, a new product from **Viziflex Seels, Inc.**, is designed to be just the intervention needed to combat Carpal Tunnel Syndrome. Simply made, it butts up against the front edge of the keyboard and fits securely under it. This new aid provides the needed support and a safer wrist angle to help reduce ligament-straining repetitive wrist motions while operating the computer. *For more information contact: Viziflex Seels, Inc., 16 E. Lafayette St., Hackensack, NJ 07601-6895, (201) 487-8080. Inquiry #227.*

TRANSWRITE 2.0

Gold Disk announced the release of **TransWrite 2.0** a major replacement for Transcript that adds new features while maintaining high speed and ease of use. The program now has document analysis to help the user write better, and mark and type text-editing to make changes easier. Improvements include greater control over widows and orphans, full formatting, and a new utility called RecoverTW that can usually recover a document even if another program crashes and causes a system reboot.

TransWrite can now handle any document size up to its memory limits but doesn't use more than it needs to hold the document. Professional Page users can link directly to TransWrite instead of the Article Editor if they wish. The program can also read and write WordPerfect files and ASCII files in addition to its own format. TransWrite will run on any Commodore Amiga 500, 1000, 2000, 2500, 3000 with at least 512K of RAM and is Workbench 2.0 compatible. *Suggested retail price: $69.95. TransWrite 2.0, Gold Disk, 5155 Spectrum Way, Unit 5, Mississauga, Ontario, Canada, L4W 5A1, (416) 602-4000. Inquiry #228.*

WOLFPACK

Broderbond Software has announced the release of **WolfPack**, a World War II naval combat simulation game. Battle between German U-Boats and Allied convoys. Unlike most combat simulators, WolfPack lets you choose which side you wish to be on. Command a German WolfPack or choose from an Allied destroyer, tanker, or freighter.

WolfPack comes with 12 easy-to-understand scenarios with various levels of difficulty. The scenarios cover the years 1939 to 1945, which include Atlantic sea battles in the war's hottest battle zones: the Atlantic Gap, Gibraltar, and Scappa Flow, among others. In addition, WolfPack includes a detailed mission construction set so players can construct their own scenarios. *Suggested retail price: $54.95. WolfPack, Broderbond Software, 17 Paul Drive, San Raphael, CA 94903, (415) 492-3137. Inquiry #229.*

VIDEO SPLITTER

New from **Network Technologies, Inc.** is the **VOPEX-3A12H**, a video splitter that allows up to 12 monitors to be attached to a single Amiga. With a 230MHz bandwidth, the highest resolution monitors will display an image as crisp as the original. This unit can handle displays up to 1500 x 1500 resolution. The VOPEX-3A12H is ideal for presentations or classrooms, where image quality is important. It saves the expense and complexities of video projectors and the like.

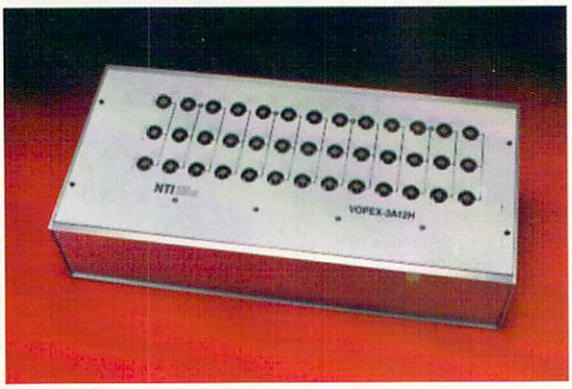
The VOPEX-3A12H is compatible with all video boards that have analog RGB outputs. All connectors are female BNC. Monitors can be placed up to 500 feet away using coaxial extension cables. The VOPEX-3A12H is housed in an aluminum case and is powered by 110 or 220v AC. It is shipped with a six-foot RGB interface cable. The unit carries a one-year warranty. *Suggested retail price: $2100.00. Network Technologies, Inc., 7322 Pettibone Road, Chagrin Falls, OH 44022, (216) 543-1646. Inquiry #230.*

IMAGINE COMPANION

From **Motion Blur Publishing** comes the first book devoted to Imagine. **The Imagine Companion** helps beginning and intermediate users get a head start with lots of hands-on, step-by-step tutorials. It offers great expert tips and hints to those who know the program. The book is designed to complement Imagine's manuals and pick up where they leave off. The book comes with a disk that contains many of the tutorial files ready to load and render.

The Imagine Companion is a must for anyone who is struggling with the program or its documentation. All the bases are covered in this book. The book is currently in national distribution to Amiga retailers. It may also be ordered direct from Motion Blur. *The Imagine Companion, Motion Blur Publishing, 915A Stambaugh Street, Redwood City, CA 94063, (408) 737-0900. Inquiry #239.*

—compiled by Jeff Gamble and Paul Larriveé.



VOPEX-3A12H video allows up to twelve monitors to be attached to a single Amiga

Printing Envelopes

on Your Laser Printer

by Patricia Zabka Kaszycki

To print at 300 dpi is pretty impressive. So, you brag about how your laser printer handles output from your desktop publisher. You proudly show samples to everyone who asks you what you've been doing lately. You even show samples to folks who don't ask. Of course, you only show the successes. After all, it doesn't make sense to brag about failures. It's better to hope that nobody asks. So in your portfolio, there aren't too many samples of envelopes designed with your desktop and output on your laser printer.

Learn how to create and output envelopes that finally meet your expectations.

This tutorial will change all that. You can have samples of envelopes output on your laser printer which are as impressive as that letterhead you just designed for a new client. OK, so maybe you don't care about impressive. How about just envelopes to match a letter you'll be mailing? Read on then, and learn how to create and output envelopes that finally meet your expectations.

The logic described here will work with any page-layout program, but this tutorial is created with the tools I use in my studio: an Amiga 500, PageStream 2.1 from Soft Logic, and a GCC Personal Laser Printer for output.

There are a few ancillary things you will need to collect before you're ready to begin. Get the envelopes that you will be printing on, a ruler, scissors, and some scrap paper. Measure your envelopes, and then cut the scrap paper to the size of the envelopes.

Open PageStream and select New from the File Menu. Set the page size to 8.5" by 11", single-sided, and select portrait. Click on the OK requester. Go to the Global Menu and select Configure Printer. The next selection is important: set the paper size to 8.5" by 11", not to the envelope size, and click on the OK requester.

Another Global Menu selection is from the Measuring System option, choose your favorite, but I like picas. Moving to the Layout Menu, leave show master page selected—this is the default in PageStream—if you are planning to print several different addresses, but all with a common design or text element. For this tutorial we will not

Diagram 1

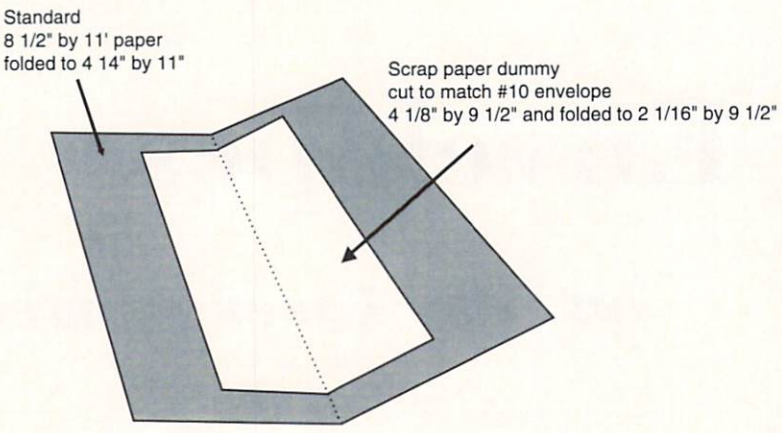
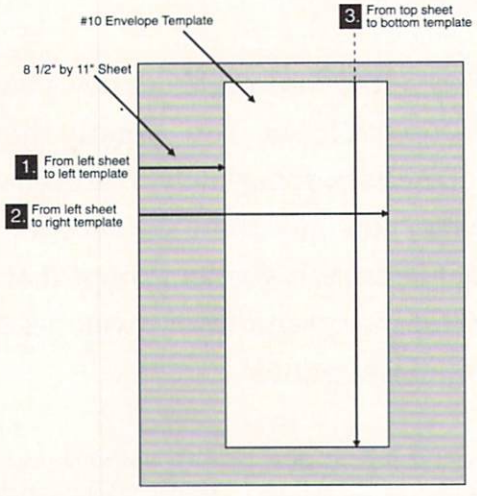


Diagram 2



need any master page elements, so select it (ESC L H). This toggle maneuver will close down the master pages. One other choice is needed from the Layout Menu. Select Snap to Guides. Move to the View Menu and select Show Full Page, Show Rulers, Show Guides, and Show Column Outline.

Take a full size sheet of 8 1/2" by 11" paper and fold it in half lengthwise so it is 4 1/4" by 11". Take a piece of scrap paper that has been cut to the size of your envelope and fold it in half lengthwise also. For example, a standard business size envelope, #10, measures 4 1/8" by 9 1/2". So your folded dummy envelope will measure 2 1/16" by 9 1/2" if you have folded it correctly. Now put the folded dummy envelope, inside the folded 8.5" by 11" sheet, lengthwise (see Diagram #1).

Line the dummy envelope up flush with the top of the full size sheet of paper. Take a pencil and trace around the dummy envelope marking onto the full size 8.5" by 11" sheet, and as you do, you'll be drawing a template that matches the shape and size of your envelopes. Next, you're going to measure the template that you just finished drawing. These measurements become the dimensions for the first box you will create inside PageStream. You'll be using the measurements that you write down with PageStream's rulers, and your attention to accuracy will affect how many adjustments you will need to make later.

For the first measurement, measure from the left side of the sheet to the first and left-most template line, and mark the measurement on the paper.

The second measurement will be from the left side of the sheet to the right-most template line.

The third measurement goes from the top of the sheet to the bottom template mark (see Diagram #2).

These measurements are easier to do than they appear to, and take only a few minutes to actually complete. However, you should be accurate because if you do these measurements carelessly, then the placement of the addresses on the envelope will be off and you'll be wondering why.

The fourth measurement is for the return address. And you will need to make a few new pencil marks to indicate placement. Mark perpendicular lines on the paper template indicating where you want the return address to print on your envelope.

Do the same thing for the fifth and last measurement. Mark perpendicular lines on the paper template indicating where you want the addressee information to be (see Diagram #3).

Measure from the left side of the 8.5" by 11" paper to the first return address perpendicular line, and from the top template line to the bottom perpendicular line of the return address.

Then measure from the left side of the 8.5" by 11" paper to left perpendicular line for the addressee, and from the top template line to the bottom perpendicular line of the addressee information (see Diagram #4).

Now you have all the data that you will need to make and place boxes on your page in PageStream. Go to the Toolbox and select the Box Tool. Move the mouse pointer to the page. Press the left mouse button to drag the box representing your envelope's dimensions, 25 picas wide by 57 picas long. Start the box for the width at the 13 pica mark on the top PageStream ruler and end it at the 38 pica mark on the top PageStream ruler. The length starts at exactly the 1 pica mark and ends at 57 picas on the left PageStream ruler.

When you release the left mouse button from this drag move, you will see a box on the page in PageStream. If you do not see this box, go to the Object Menu and select Line Style. From the requester box select Style 1, Width .05, and Color Black. Press on OK and when the screen refreshes itself, you will see a box on the page (see Figure A).

Next we're going to make sure that the box is in exactly the right position on the page. This is easier to do in magnify mode, so go to the View Menu and select Show/Set User Scale. Press ESC and type into the box 150, and press RET and click OK (RET RET). The screen will refresh, and at this enlargement you will be able to see the tick marks on the ruler more clearly. Use the scroll bars to move around in the magnified window.

You should still be in Object Mode, and the arrow icon will be highlighted. If not, select the Object Mode by clicking on the arrow icon in the Toolbox. You will see the outline and the sizing squares on your box (the envelope template) on the page in PageStream. Move the arrow pointer to the box and press and hold the left mouse button. The arrow will change to a hand so that you can move the box to the exact tick marks on the PageStream rulers. The Snap to Guides feature from the Layout Menu will lock the boxes lines into exact position on the rulers. You enlarge or reduce the box if needed by dragging the sizing squares.

It's a good idea to save your work as you go along. If you have not yet done so, this is a good place to make the first save. From the File Menu, select Save As Template. Name the template #10 Envelope.

Once the Save As Template is complete, you're ready to type in the data for the addressee, and for the return address. Go to the Toolbox and select the Text Tool. Move the mouse to the page and the arrow will change to the "I" beam cursor. Click anywhere on the page, and the text cursor will appear. Start typing the addressee information. When you are done, go to the Toolbox and select the Object Mode. The data that you have just typed becomes the selected object and will have sizing squares around it. Move the arrow pointer to the page and click anywhere to deselect the addressee information. If you have turned on the Show Column Outline feature, you will see dotted lines making a box around the addressee information. If you don't see this, go to the View Menu and toggle the show column outline.

Repeat the same steps for the return address information.

Now that you have the names and addresses typed on the page, maybe you would like to see some different type styles. If you want to change fonts, or point size, go to the Style Menu and select your options. At the prompt, select current box, or all if you want both boxes to match and press return. Next you will be taken to a window to select Font style, name, size, and leading. Make all your selections and changes. And then it's a good time to do another save routine. So select Save As Template from the File Menu, and click on OK in the requester box.

The next activity will be to rotate and move these two boxes into their correct positions on the template. Begin by going to the View Menu and select Show Actual Size (see Figure B). Change back to Object Mode and move the arrow pointer to the bottom box and select it by clicking the left mouse button. Hold down the shift key and click

Diagram 3

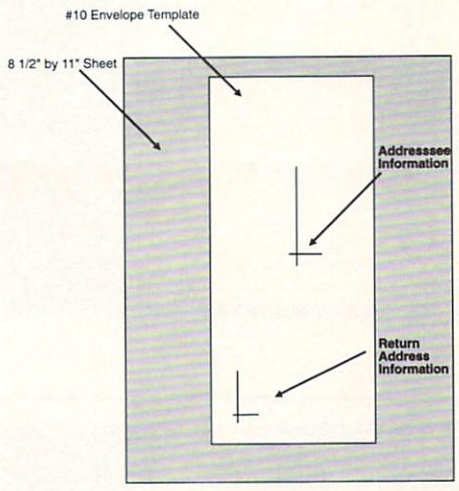


Diagram 4

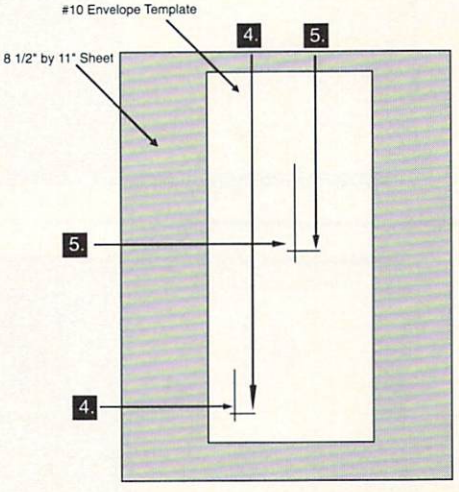


Figure A

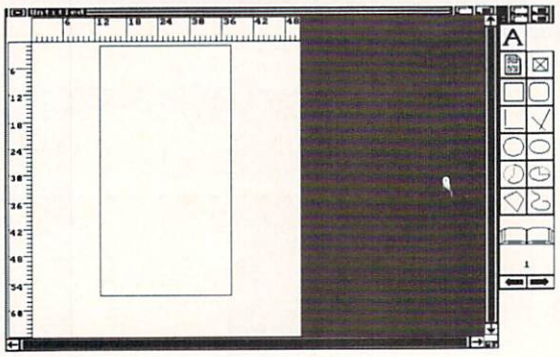


Figure B

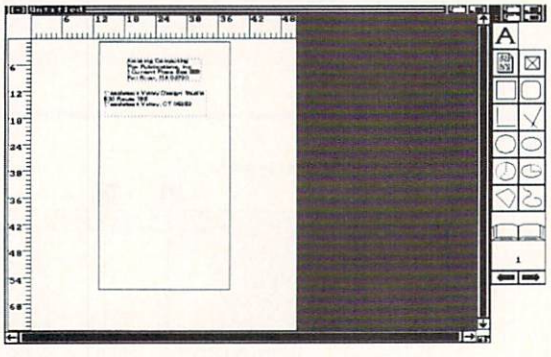


Figure C

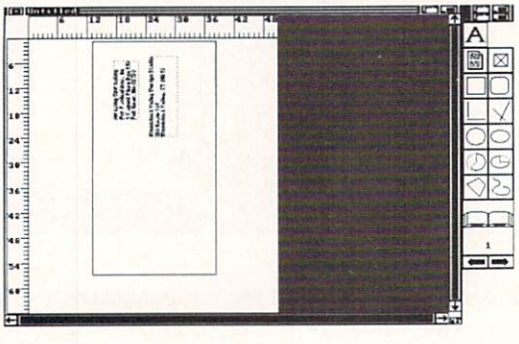
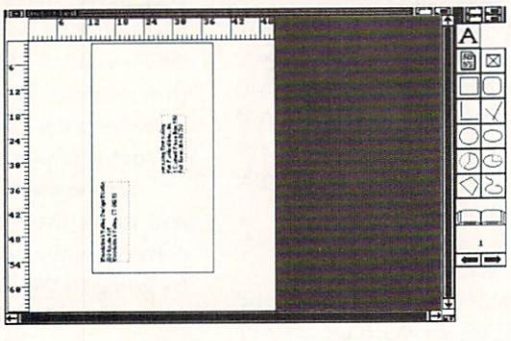


Figure D



to select the top box. Select Rotate from the Object Menu and move the little gizmo to 90° or type 90 in the requester box. Press return and click OK, and the screen will refresh and the boxes will be rotated 90 degrees (see Figure C).

Go back into Object Mode by selecting the Arrow Icon in the Toolbox. Then click anywhere on the page to unselect the two boxes. Move the mouse pointer to the return address box. Press and hold the left mouse button. It will change to the little hand. Now you will drag this box to line up with the correct tick marks on the PageStream rulers corresponding to the perpendicular lines on your template.

Repeat for the box with the Addressee information (see Figure D).

Time for another save. At this point I like to Save As A Template in one file, and a Save As whatever person or company the mail is going to, in another file. This maneuver allows you to create a disk full of templates for various size envelopes in one file; once done you never have to do them again! The templates you can keep forever, and the Save As files you can keep as long as you want to, eliminating or adding names to your mailing files as required.

Before you send the command to print, select the first box you created at the beginning of this tutorial by using the Arrow Tool, moving the arrow pointer to and clicking on the box. The sizing squares will become highlighted. Press the delete key on your keyboard. When the screen refreshes, the first box will be deleted. Only the addresses will remain on the page in PageStream.

You're ready to print. Here's where the scrap paper that you cut to the envelope size comes into play. Load your laser printer tray with the cut-to-size scrap. You could of course use your real envelopes, but if your template needs adjustment for any reason, then you will be wasting the good stock. Center the stack in the tray.

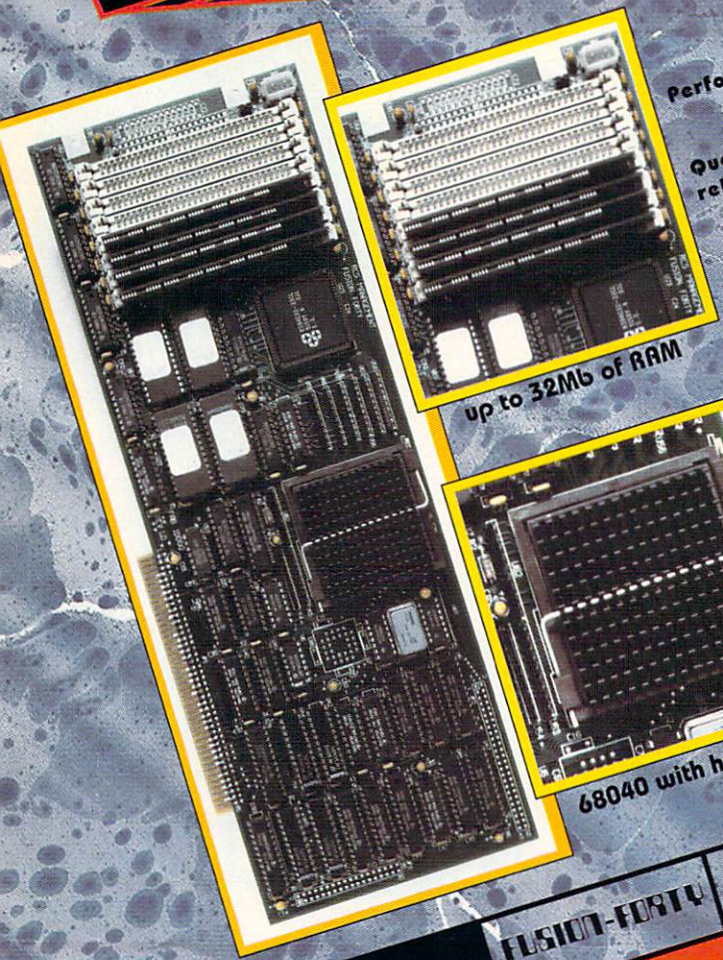
Now from PageStream's File Menu send the commands to print one copy

→

Let those who have understanding reckon the power of the

FUSION-FORTY

MEGA-STEROID ACCELERATION FOR THE AMIGA 2000



up to 32Mb of RAM

68040 with heat sink

Performance :
- Motorola MC68040 microprocessor at 25Mhz.
- 18 - 25 MIPS, 3.5 - 8.0 MFLOPS
- 32-Bit RAM

Quality and reliability :
- 6-layer board with separate ground and power planes for uniform voltage stability.
- extensive use of decoupling devices minimizes electrical noise.
- high-performance clock for the tight electrical specifications of the MC68040.
- heat sink to dissipate heat generated by the MC68040.

Expandability :
- memory available in 4 Mb, 16Mb and 32Mb configurations.

Features :
- hardware select switch to disable accelerator board and run original processor.
- asynchronous design for Genlock compatibility.
- user object code compatibility with all earlier Motorola 68000 series microprocessors.
- compatible with Videotoaster, Imagine and other software.
- one year warranty.

	FUSION-FORTY	Commodore 2630	GVP A3001	IBM i486
Processor	MC68040	MC68030	MC68030	i80486
Clock Speed	25Mhz	25Mhz	25Mhz	25Mhz
Mips	20+	5.8 +	6.4 +	15
MFLOPS	3.5+	Less than 1	Less than 1	1.
Cache Sizes	4Kbytes x 2	256bytes x 2	256bytes x 2	8kbytes
Burst	Yes	NO	YES	yes
Memory(32bit) on board	4M Standard Max 32 M	2M Standard Max 4 M	(Needs DaughterBoard)	

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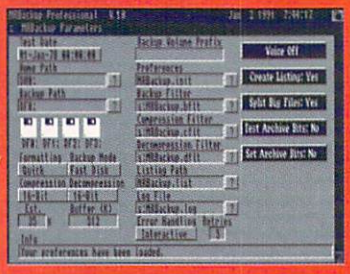

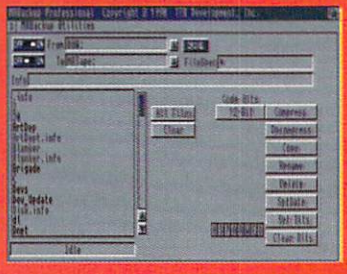

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at 100%. If you have done all of the initial measuring and subsequent moving of boxes with accuracy, then the printed sample on the scrap paper should emerge from the printer exactly as you want the final envelope to print. If it does not, go back to the rulers and then check all of your measurements. Make adjustments as indicated. Do another Save, and Save As on both the Template and the Final Envelope. Then send another test copy to print. When you are satisfied that everything is in the proper position, load the paper tray with your real envelopes and print as many copies as you need to.

Helpful Hints

When you buy envelopes to use with your laser printer, look for those which have a square flap. The laser printer likes these best! You can find them in many places. I like mail order shopping, so I buy from a company called PAPER DIRECT, 57 Romanelli Avenue, South Hackensack, NJ 07606-9904. Their phone is 1-800-A-PAPER. You can also buy matching text, and other interesting paper products for your desktop publishing projects.

Avoid envelopes made from papers that have textured finishes or glossy coatings. For example, in the arts and crafts supply stores, and in some stationery stores, you will easily find Strathmore's beautiful blank matching cards and envelopes, in all kinds of seductive colors. Unfortunately, the paper is heavily textured in the making, and will not work in the laser printer. The laser printer does not like these! Another easy-to-find choice is from EATON, and it is very common in the stationery stores; however, your hard working laser printer doesn't like it either.

How can the ordinary layperson tell the unacceptable envelopes from the acceptable ones? Hold them in your hands to feel the surface and look critically at the finish. If they feel "toothy" or rough and you can see "valleys and peaks," they probably will not work. Don't buy them for laser printer work, no matter how sexy the color and deckled edges are.

You can purchase envelopes designed to your special needs from manufacturers and paper merchants. Try WESTVACO, Envelope Division,2001 Roosevelt Avenue, Box 3300, Springfield, MA 01101-3300, phone 800-628-9265 or 800-332-3836 (in MA).

Another manufacturer is OLD COLONY ENVELOPE COMPANY, Westfield, MA 01086, phone 1-413-568-2431. •AC•

Author's Bio

Pat has a Master's degree in Fine Art from the University of Hartford and is a freelance graphic designer and illustrator living in Woosdstock Valley, CT. She has done work for large corporate clients, as well as for small businesses. The range of her projects include designs from logos and letterheads to annual reports and print media advertising. Pat is fluent on the Macintosh as well and does freelance work away from her studio with PageMaker and Adobe Illustrator, but her preferred tool of choice is the Amiga. Pat is currently working on a book *Everything You Always Wanted To Know About Desktop Publishing on the AMIGA for Beginners.* This tutorial is from a chapter in that book. *Please write to Patricia Zabka Kaszycki, c/o Amazing Computing, P.O. Box 869, Fall River, MA 02722*

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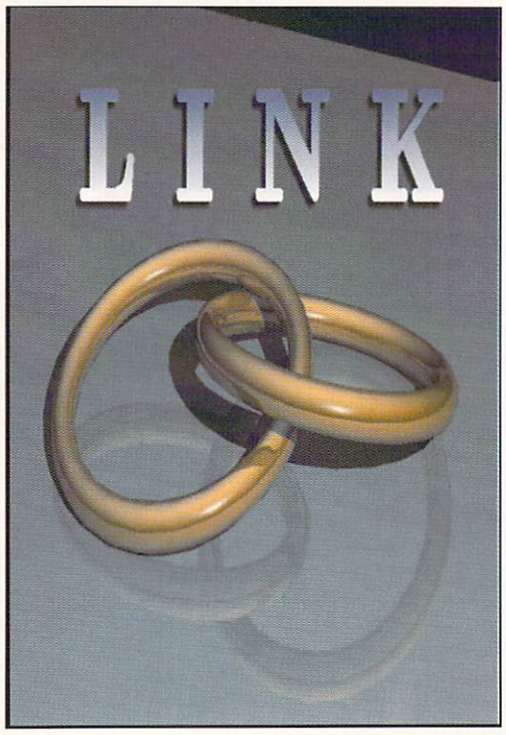
FIRECRACKER 24

True 24-Bit Graphics Display and Paint System

by Frank McMahon

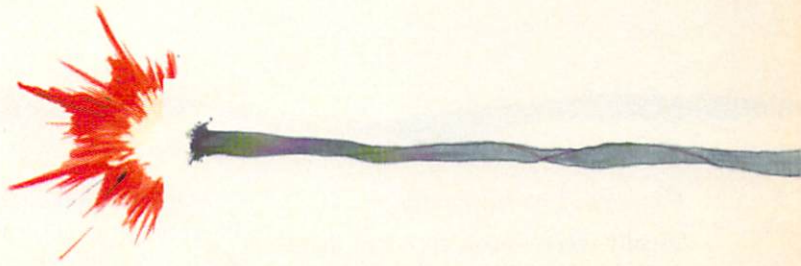
"True 24-bit" is perhaps *the* key phrase in describing the new Firecracker 24 board from Impulse, Inc., creators of Turbo Silver and Imagine. The board allows for the display and painting of images in resolutions up to 1024 x 482 using any of 16 million available colors in full RGB mode! With all the latest hi-res paint programs and full broadcast resolution framebuffers that have appeared in the last year, it's best to sort them out and see where the Firecracker 24 fits in before embarking on a tour of its numerous features.



A recent short film I directed centered on two women whose paths cross when they meet searching for a ring. For the title screen I constructed two rings and rendered them in Imagine's 482 X 1024 24-bit resolution. Using Light24 I added text with shadows (using the "blend" command to soften them) and colored the rings in with the dither control.

Lo-Res to 24-bit

Amiga users are used to having 16 shades of red, green, and blue to choose from in most standard paint programs (such as DeluxePaint III). This allows 32 colors in various resolutions from a total palette of 4096 (R16 x G16 x B16). Half-brite mode dims the palette to half-intensity for an additional 32 "half as bright" colors. HAM paint programs (Photon Paint 2, SpectraColor, Digi-Paint 3) allow all 4096 colors on screen at once but only in lower resolutions. HAM mode allows 16 colors as a base palette but any other color may be used. These colors beyond the first 16 are calculated in such a way that highly contrasting colors placed pixel to pixel will "fringe" and place a mixture of the two colors on a pixel in between. This 3-pixel transition can be a drawback in a paint



program if your colors are not chosen properly. However, in a 3-D rendering program, the "fringing" is not noticeable in HAM mode since this form of imaging does the smoothing automatically (Commodore once stated that "HAM mode features built-in anti-aliasing"—now *that's* marketing!).

Next up is hi-res HAM programs (HAM-E, Marco Paint, Digi-View 3 Dynamic HiRes). These allow all 4096 colors to be displayed at once on a hi-res screen for beautiful but memory-intensive images. HAM-E goes the extra distance in being able to calculate and work with 18- and 24-bit images from within HAM mode but can only display 256 colors on-screen from a palette of 16 million. The next step up are internally generated 24-bit framebuffers. These would include DCTV, NewTek's Video Toaster, and the Mimetics Framebuffer. Now we are in 24-bit country—almost, as 24-bit stands for eight bits of data per red, green, and blue component. Earlier we saw that standard Amiga resolutions would have 16 levels (R16 x G16 x B16) per color for a total of 4096 colors. 24-bit allows 256 levels (R256 x G256 x B256) per color for a total of 16,777,216 colors! Now even though the software calculates at 24 bits from within the program, the output on these units is only composite (NTSC).

Since composite mode has stricter limitations on color information, the actual output is more toward 21-bit (roughly 125—160 shades of red, green, and blue rather than 256) leaving you with only 2—4 million colors. This provides excellent shading but with fewer shades than true 24-bit. Hence, there is still a color jump from one color to the next in the palette and although it is better than HAM mode, some graininess will still be apparent in shading and dithered spreads.

The next stop? The top! The Firecracker 24 board provides 24-bit color information with 256 shades of red, green, and blue so that any on-screen pixel can be any of over 16 million colors with no limitations. Instead of a composite output, the board has full RGB analog out, meaning that no color information is lost going to your monitor. Now that we know where it stands in relation to the competition, let's see if the Firecracker 24 stands up to them. A recent Impulse newsletter called it the "Rolls" of display cards. We'll see.

Installation

The package comes with the Firecracker 24 Zorro/100-pin compatible board, a short overlay/monitor cable, a program disk, manual, and warranty card. The warranty card should be sent in immediately. Impulse is one of the few companies that updates its software constantly and you'll want to keep abreast of the latest improvements and/or revisions. The board will work in any 2000, 2000HD, 2500, or 3000. Initially it came in two configurations, a 1 meg and a 2 meg version. But now only the 2 meg board is available. The only difference was that the lesser board could display pictures no larger than 512 x 482 pixels, while the 2 meg could display 1024 x 482 pixels. If you have the 1 meg version, it can easily be expanded to 2 meg by Impulse. The board has two ports on the end that come out the back, a DB-23 and DB-15 connector. The board itself has three pots for adjustment of red, green, and blue 24-bit display video levels and three pots for Amiga display RGB video levels. In addition there are controls for genlock vertical positioning and genlock vertical timing. All the pots are factory-set so that no adjustments are necessary for normal use.

To install the board, simply power down all components and remove the power plug to your Amiga (always ground yourself by touching the outer Amiga case before you pick up the board you are installing or before you touch anything inside the Amiga). Take the cover off your Amiga and gently press the board into any available Zorro slot; it does not need/use the Amiga video slot. The unit is equipped to overlay your Amiga screen over the 24-bit display using one monitor or to send the 24-bit display directly out to a second RGB monitor. To send to a second monitor, simply attach a monitor cable from the back of the board's DB23 connector output to the monitor's input. To utilize the Firecracker's overlay mode, connect the supplied cable (DB23 to DB15) from the Amiga's RGB output to the Firecracker's RGB input. Then go from the RGB output on the board directly to your monitor. Replace the cover, reconnect everything and power-up. It's important to note that the Firecracker 24 board cannot be used with an internal genlock because of timing considerations. However it will work with almost any external genlock or encoder. Contact Impulse for a current list of compatible genlock units.

Firecracker Software

Usually when I hook up a unit that I must pass my RGB signal through, the results are a little dull or slightly blurry. Not only did the Firecracker 24 not blur the signal, but it actually appears a bit sharper! The board is completely transparent until activated with the included software. All software currently must run though the CLI. The included software is as follows:

BON & BOFF: Turns the Firecracker 24 board on and off from the Workbench screen. In Overlay mode color 0 of your current Amiga screen is replaced with the Firecracker 24 display underneath it. Your Workbench now can have a 16-million-color, hi-res marble tablet background if you wish. This feature is very convenient and will likely become more so in the future as Amiga programs support the Firecracker 24 board.

AON & AOFF: Provides a similar effect as that above, only it toggles your Amiga Workbench screen on or off. Keyboard commands should be included for both AON/AOFF and BON/BOFF, especially since when you type in AOFF in the CLI your Amiga screen disappears, and you must type blindly in order to get it back.

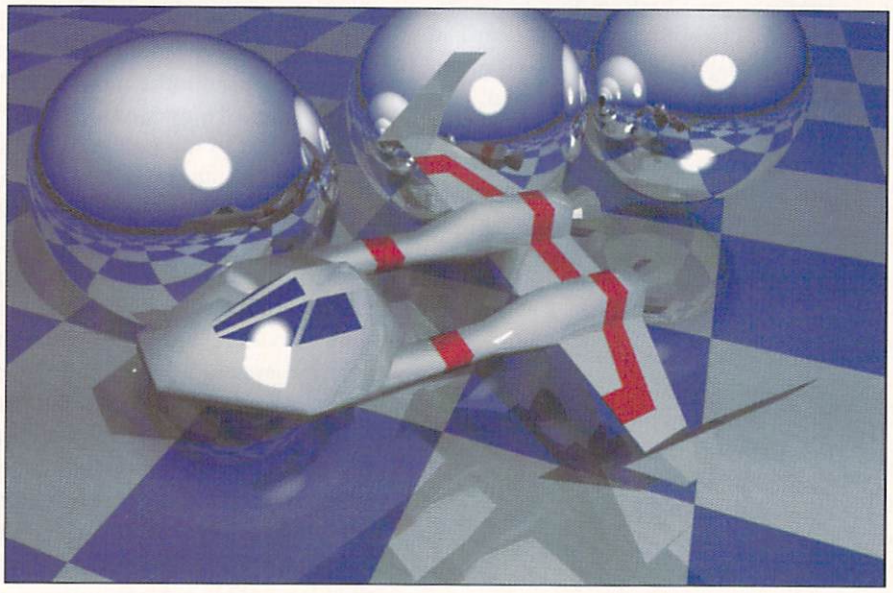
SHOWFC: Will load a Firecracker 24/Imagine/Silver RGB8/RGBN 24/12-bit file. From the CLI, simply type: SHOWFC <Filename>.

SHOWRGB: Loads files that have been saved as separate red, green, and blue files such as 24-bit images from Sculpt-3D and 4D. From the CLI: <Width> <Height> <Red Filename> <Green Filename> <Blue Filename>. When rendering, it's important that you note the width and height so you can input it into the command.

SHOWIFF24: Will load a standard Commodore 24-bit IFF file. Almost all 24-bit programs support this filetype including the Video Toaster's ToasterPaint and Digital Creations' DCTV. From the CLI: SHOWIFF24 <filename>.

SAVEIFF24: Saves the image currently in the Firecracker 24 board to a standard IFF 24-bit file. From the CLI: <Horizontal Resolution> <Filename>. Typing in the resolution will allow custom resizing.

Depending on the version of software, you should also get one or two demo pictures. One included on all versions is "Test.24," which is a graphic of standard NTSC colorbars. Do not use this as a color bar generator to adjust your monitor but do contact Impulse if your bars come up incorrectly with a properly calibrated display monitor. In addition there are several source codes on disk for input/output routines including one for Turbo



The infamous Videoscape "Loop ship" never looked so good. I brought the object into Sculpt-Animate 4D, gave it a smooth metal texture and rendered it as a 24-bit file in 746 X 484 resolution.

Silver 3. Documentation is sketchy, and the manual advises that any developer wishing to develop companion programs for the Firecracker 24 board contact Impulse and request a more complete information package. The manual also includes a very limited (and barely legible) schematic as well as very detailed pin location and usage tables for the RGB ports.

The Light 24 Paint Program

[The Light24 paint program currently included with the Firecracker 24 board is in a pre-release stage. For that reason, program documentation is not available at this time. The following report on Light24 is a result of Mr. McMahon's exploration of the pre-release program. An official release of Light24, complete with documentation, is expected in the near future.—Ed.]

The Light24 paint program is run from the CLI and appears genlocked over the Firecracker 24-bit display. Toggling the command screen on and off is done by hitting the ESC key.

The main screen is divided into Utilities, Paint Tools, and Functions. First up is the Load Pic requester. Light24 will load in nearly any kind of Amiga picture, 24-bit or otherwise. I've loaded in everything from lo-res screens to HAM overscan to 24-bit to Imagine files with a 100% success rate. Using the Set Size command, you can choose from several predetermined widths and heights: H-241/H-482/W-384/W-512/W-768/W-1024. A total of 1024 pixels across the screen goes beyond the standard Amiga hi-res overscan mode for incredibly sharp images.

Screen sizes can also be adjusted manually by typing in numbers for width and height. These screen sizes would be centered on a hi-res overscan screen. For example, if you set the screen mode to hi-res overscan, you would see your small 320 x 200 size graphic loaded in the center of the hi-res screen rather than having the image take up the entire screen. To take up the entire screen simply use the Zoom command. Now if you set your screen resolution to 320 x 200 and load in a hi-res graphic, it would load in as a super-bitmap showing just 1/4 of the screen. You could then scroll around (like ToasterPaint) for detail work and then change the screen to hi-res when completed for a

Imagine Sets Off Firecracker

Just the spark it needs, Impulse's 3-D rendering program, Imagine, will be an integral part of the Firecracker 24's colorful future. The Imagine/Firecracker 24 tag team with 3-D modeling, rendering, animation, and 24-bit painting could give the Video Toaster a run for its money—the added advantage being much higher resolution and 16 million colors in RGB mode with full painting in 24-bit mode. This would be up there with the famous (and pricey!) Targa boards and 3-D/paint programs from the IBM world.

Imagine has a port built in to directly access the Firecracker 24 board during rendering and animation creation. The option is on the main project screen and allows the program to send the completed 24-bit image for immediate display on the RGB screen. The current version of Imagine (1.1) does not implement this feature yet because Impulse is working on a method to merge the two more intricately rather than just use it as a device. Other programs that already use the Firecracker 24 as a device include Virtual Reality Laboratories' Vista*pro* (3-D terrain rendering) and ASDG's Art Department Professional. Both programs render directly to the board for fast results. Unlike NewTek, Impulse is releasing source code so developers can create and market 24-bit programs (such as paint, character generators, and desktop publishing) for use with the board.

I have been rendering to the board (saving to RAM and then loading from there into Light24) using Imagine, and have found the quality breathtaking. This is the first time many will see "true 24-bit" 3-D renderings on an Amiga platform without the aid of an IBM Bridgecard and Targa board. And the price is a lot lower too. Also a nice touch is that Imagine will load a Firecracker 24-bit mode image into the Amiga screen and convert it to HAM resolution quickly and automatically. But once you see Imagine renderings crackle on the Firecracker 24, it's doubtful you'll ever work in HAM again.—*FM*

full display but with all tools intact, *unlike* ToasterPaint.

Save Pic will save the current image as a RGB8 or IFF 24-bit file. Load Brush/Save Brush supports almost any kind of brush. I loaded in several brushes from a DeluxePaint data disk and although they were smaller (lo-res brushes going into a hi-res screen), they looked fantastic. The key advantage is that you can mix various palettes since you are working with 16 million colors. No more having to remap or merge palettes—you can combine as many as you want on one screen. The program also saves and loads its own brushes through this requester. Merge Pic allows for the loading of a second picture "over" the current one and then mixing the two from one. Print is ghosted and unavailable this version.

The Firecracker 24 board provides 24-bit color information with 256 shades of red, green, and blue so that any on-screen pixel can be any of over 16 million colors.

Paint Tools

I was surprised to find that even though I was using the Firecracker 24 on a Amiga 2000 with a 68000 processor, almost all of the commands were executed quickly, certainly as quickly as DeluxePaint III. Usually manipulation of color information this great requires quite a bit of calculation, but the program zipped right along. Although Freehand is the main drawing tool allowing precise drawing, if you quickly make swirling lines, the brush will tend to drag behind a bit—more so with the larger brushes. This is fairly typical of hi-res paint programs.

Text allows using any Amiga font to produce words on your colorful screen. Fonts are available in bold, italic, and underline and there is no font previewing. There is no Colorfont support (I typed them in but only the numbers from the set would appear and they were monochrome) and there is no way to redirect the font path from within the program. Most fonts I loaded did not accept the spacebar command for some strange reason, certainly putting a damper on titles with more than one word. Obviously, font handling needs some work and previewing is a must.

Other commands (either included this version or to be included in future versions) are Circle (solid or outline), Ellipse, Line, Box (solid or outline), Polygon, Arc, Flood Fill, and Airbrush.

Brushes can be any graphic or shape, and regular drawing brushes can be round or square. The brush height is controlled via a numerical requester, size icons, or with the "+" and "-" keys on the keyboard (just about every command has a keyboard equivalent displayed right on the icon for quick reference). The addition of Diagonal 1 and Diagonal 2 is something new; it's a feature that lets you input the amount (in two separate directions diagonally); the brush length is in pixels. This allows creating small lines to draw with.

Dither produces beautiful full-color spreads between two hues. The dither can be in Linear mode (horizontal, vertical, or diagonal directions) or Radical (cursor sets a color hotspot which the dither centers around). To dither: Draw a solid box; select floodfill/solid/dither/and linear or radical; select a color via the palette or though Pick Color (which allows for picking any color off the current screen); stamp the brush down (small ones work best), drag out a line, then release. The dithering will be from the box color to the selected color. Repeat by selecting another color and choosing a different part of the screen. The dithering will now go from the last color chosen to the currently selected color.

This process can be used on a full screen for interesting backdrops. Undo deletes the last action performed on the screen (even if you are clicking menu items, you can still undo the last on-screen action).

The Mode Menu in the Paint Tools screen allows several drawing methods including: Normal, Tinter (lighten mode which filters out low RGB values), Filter (darken mode which filters out high RGB values), Fader (same as filter only not as severe, providing a light tint), Blender (flawless blending which combines colors to create a spread between them for anti-aliasing smoothness), Sponge (turns the cursor into a small box which you stamp down to "soak up" the colors underneath, allowing for brilliant multi-colored brushes you can draw with until you lift the mouse button), and Smear (offers unsophisticated rough blending

when drawing with a brush). Also on tap is the Show Palette command which makes color selection as easy as programming a VIC-20, via numerical input. Although this method killed the paint-by-numbers industry in the mid-70's, Impulse seems to be poising it for a comeback with its programs. Red, Green, Blue, and Hue, Volume, Saturation are available along with an input for setting the fade/smear amount—all numerical with not a slider in sight.

Function Menus

Zoom In/Zoom Out are Firecracker 24's magnify mode and they're fast. You can move in via an icon click or with the keyboard. Impulse removed the overscan border during zoom mode for added speed. Smart.

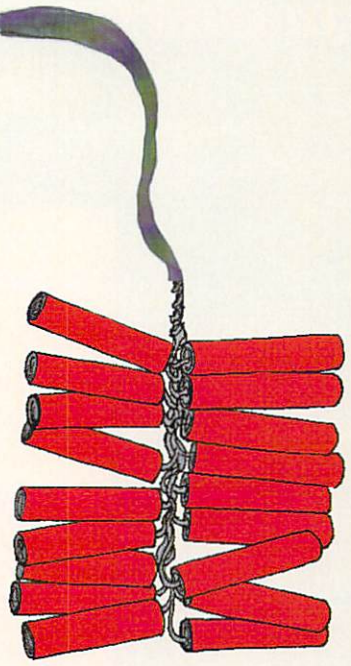
Second Page is a swap screen which is unavailable this version. Cut Brush allows almost any drawing tool to be selected and then used as a pair of scissors to cut out a part of the current screen. Although the Free Brush command is unavailable this version, the workaround is to enter the Brush Size requester and type in a "1". Auto Cut is used with Cut Brush by calculating that as long as the border of the scissors area is all one color, that color will not be picked up when the brush is lifted from the screen. This excellent feature allows you to pick up items such as text without the background—certainly easier than most stencil commands in other programs and very handy.

Flip X, Flip Y, and Flip 90 rotates the current brush respectively. Slide lets you move the cursor location off the brush and still draw with it. This is done by selecting the Slide icon then holding down the left button and sliding the mouse. Clear Screen clears the screen to the currently selected palette color and B & W Convert changes the entire screen to a 256-shade grayscale image.

Conclusions

With a piece of hardware this intriguing, you naturally want to know everything about it. However, due to the sketchy documentation all you really are instructed on is how to load and save pictures. There was no mention of Imagine in the docs so I couldn't figure out how to get the program to recognize my board since the "Use Firecracker" requester was ghosted in Imagine even after I installed the unit (see sidebar). A short program needs to be created to include the numerous CLI commands, only formatted more like Light24 with mouse control.

How does Firecracker 24 stack up against the competition? It would be too bold to say there is no competition but it would be wrong to group it with existing framebuffers, since the Firecracker *is* unique. One thing the Firecracker needs that the others have is data compression. ToasterPaint and DCTV can both save in tailor-made compressed files leading to very fast load and save times. Firecracker 24's RGB8 loads/saves faster than IFF 24-bit but still could use some packing. Light24 is just getting out of the gates so it's too soon to compare it with existing 24-bit paint programs. However, that the source code has been released is a big plus. We'll hopefully see some incredible programs that take advantage of this incredible board. The Art Department Pro and Vista Pro both support the board but are merely scratching the surface. I hope that programs from several different parties will lead to healthy doses of quick advances and more competitiveness. External genlock and encoding is a big plus for studios and anyone doing video productions.



And lastly, the picture quality: Gorgeous, 482 x 1024 resolution; 16 million colors to paint with; RGB mode display. DCTV, Toaster, HAM-E—*none* look this great.

Remember way back when, when you first saw the Amiga and said, "Wow!" Well, get ready to do it again. I recommend you test drive this "Rolls". You may just want to drive it home.

•AC•

Firecracker 24
Price: $1000.00 (2MB)
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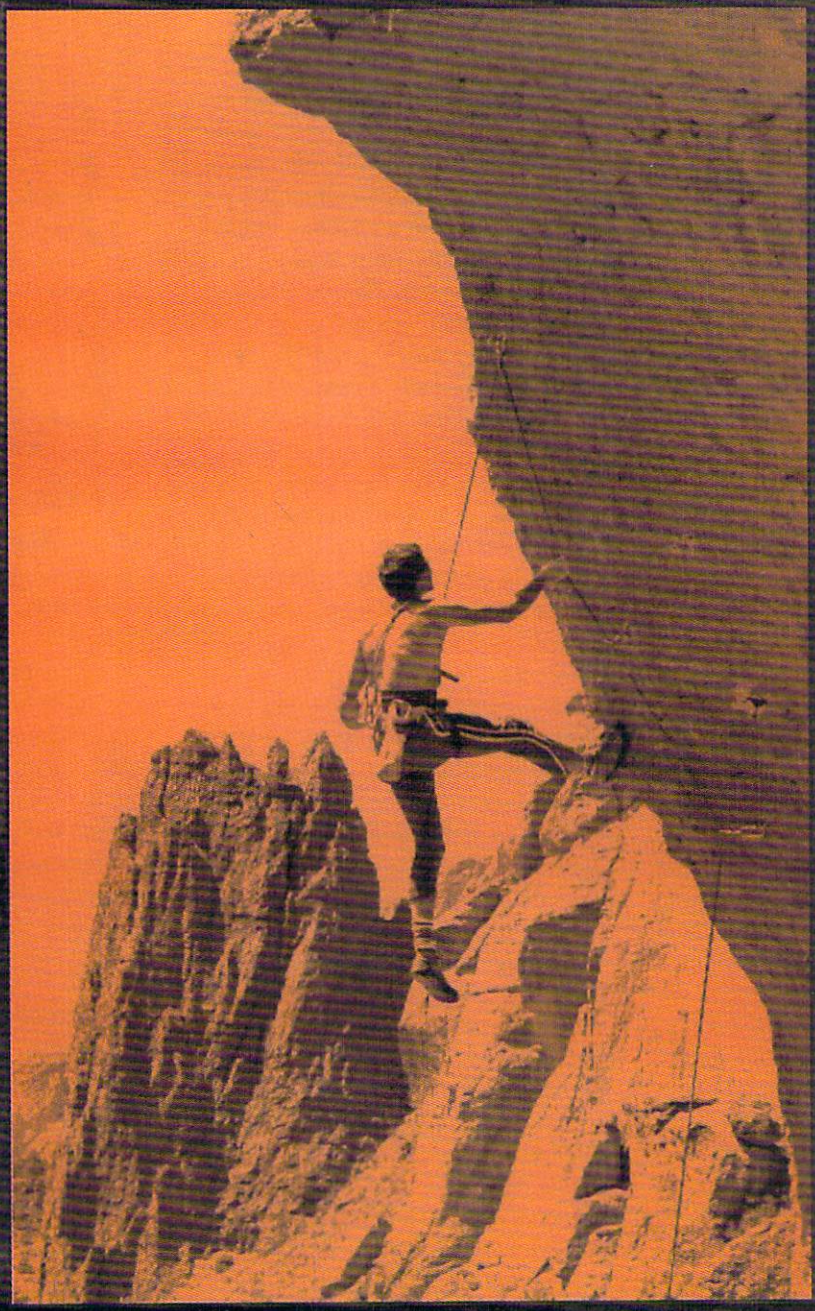

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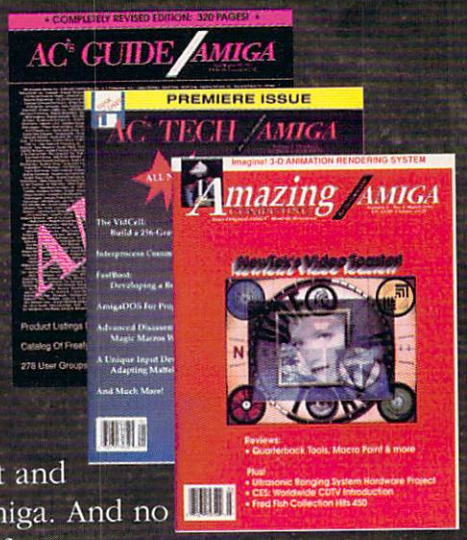

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REVIEW

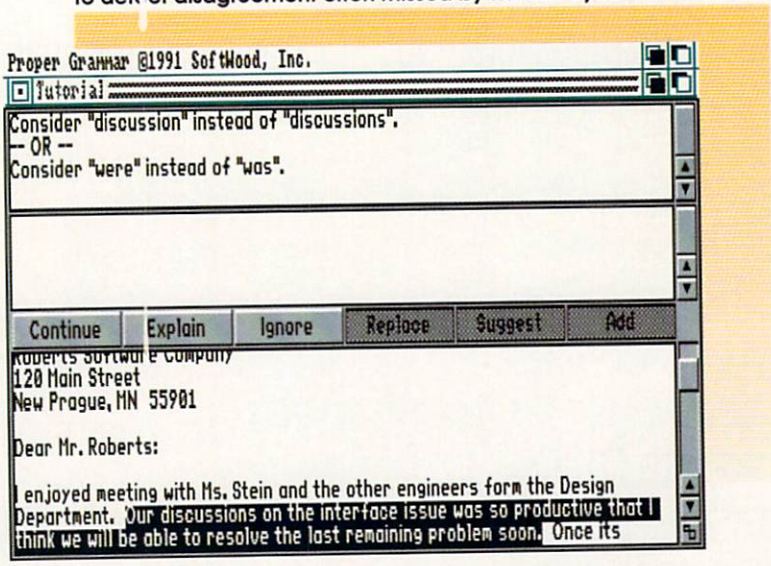
SOFTWOOD'S

Proper Grammar

by Paul Larrivée

YOU TAKE PRIDE in your ability to write. You're careful about subject-verb relationships, case of noun or pronoun, diction, placement of modifying elements. You excel in your ability to spell, capitalize, and punctuate properly. Never boring or tedious to read, your sentences have force, variety, and rhythm. Never would one of them ever be caught shamefully dangling an element, in full public view! Your mother and most of your acquaintances marvel at the size of your vocabulary. After all, weren't you the only kid in third grade who knew the meaning of *amanuensis*. Why, by the sixth grade you had one of your own, an attractive and nubile one at that.

Proper Grammar can "see" past intervening elements to detect disagreement often missed by human eyes.



Being such a talent, you are offered the possibility of a lucrative editing position in the prestigious publishing firm of Caruthers and Carroll, Ltd. of London. You quickly post the cleanest copy of your resumé along with a dashed off cover letter. Later, taking a little more time, you re-read a copy of the cover letter, and you wish for a moment that you could amputate your right hand. There, in full view you see the glaring phrase concerning your "very unique linguistic ability" as well as your encouraging declaration, "Its possible for me to re-locate to London upon a day's notice."

Publishing Egregious Errors

That scenario may not accurately depict most of us. How many of us, however, have not at some time discovered embarrassing egregious errors when it was too late to correct them? How we wish that we'd been more careful before putting our document in mysterious transit with the postal department, knowing that it moved inexorably to its destination. The best of us need an editor, one who does not require a salary or benefits or even a vacation. Many Amiga users may be artists or musicians, but most of us use our Amigas for word processing, if only occasionally. Spell checkers provide help, but they're limited.

Pasting a Disagreement

Proper Grammar from Softwood Incorporated offers comprehensive checking of cognitive errors, typographical errors, and errors resulting from word processing programs. This last category of error occurs because the word processor offers us the ease of copying, cutting, and pasting. Copying may lead to redundancy; cutting may result in lack of continuity; and pasting may create disagreement between subject and verb or noun and pronoun. Word processing may be a boon, but like many benefits, it does have its pitfalls.

Proper Grammar checks for and corrects your solecisms in over 30 categories, from clichés to commonly confused words to wordy expressions. Proper Grammar accomplishes this task, according to Softwood Incorporated, by referring to a database containing "linguistic information for more than 135,000 words, or more than 99% of the words used in average English writing." Moreover, the program can recognize where a sentence begins and ends and is not confused by abbreviations having periods. Each of the database entries is coded with information about grammar, usage, spelling, and inflections.

Proper Grammar approaches its task with care and common sense.

The use of coded entries and the ability to distinguish the end of a sentence from an abbreviation ending in a period are what set Proper Grammar apart. I've used other so-called grammar checkers that operated at a glacial pace and really slowed one down by needlessly flagging every third word or so. This is not the case with Proper Grammar.

In the way typical of this type of program, Proper Grammar highlights errors and offers suggestions. Click on the suggestion that you consider valid and the replacement is made instantly. You can manually correct the highlighted text. The first character you type on it immediately deletes the offending text; just continue typing in insert mode until you're satisfied.

If it's not clear to you why a word or phrase has been flagged, or if the suggested corrections have you puzzled, click on "Explain" to get a mini-lesson on the point in question.

You can reset error reporting tolerances to by-pass certain errors. For instance, if you're comfortable with the phrase "customer service representative" because your company uses it in every publication, then set Noun Adjunct Errors to flag four or more such contiguous nouns in the Preferences sub-menu under the Project menu. In this case, only a noun adjunct error like "area customer service representative" would be flagged. You can make these tolerances permanent or they can be limited to the current correction session.

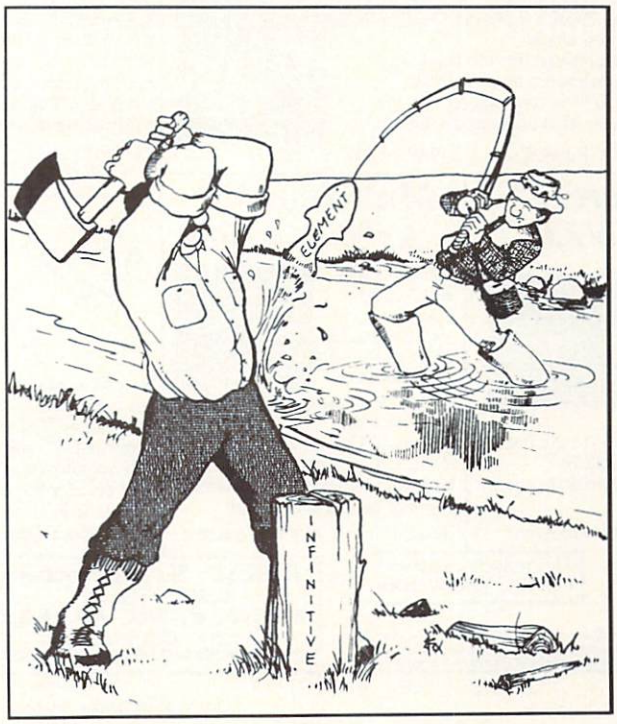
In "Rules on/off Status" from the Preferences window, click on or off three screens of 36 rule classes. Again, the clicked-off rules, which are listed in the window, can be turned off permanently, or the "off" status can apply only to the current session.

Allowing Infinitives to Split

Besides setting flagging limits for noun adjunct errors, you can set tolerances for split infinitive and prepositional phrase errors. Direct the program never to flag these errors or to flag split infinitives only when there are five or more intervening "tokens," or when you have strung five or more prepositional phrases in a row. Of course, you say, you never write that way. I follow the dictum of the sage who observed that an infinitive is pretty much like a piece of firewood that sometimes improves upon being split.

As you first begin checking your documents with Proper Grammar, you should add to the database the first time they're flagged any esoteric words or proper names that you commonly use. This way you won't be bothered by needless error flags.

Subject your document, if you want, to a statistical analysis to get the Flesch Reading Ease Score, the



Flesch-Kinkaid Grade Level, and Gunning's Fog Index. The manual explains how to interpret these ratings. For instance, this article has a Flesch Reading Ease Index of 49.88, a Reading Grade Level of 13.02, and a Gunning Fog Index of 13.14.

In addition to checking and correcting errors produced by its own word processor, Proper Grammar supports most of the popular word processors including WordPerfect, ProWrite, and Pen Pal. It will also check ASCII files used by various text editors. In addition, Proper Grammar's ARexx port can receive commands from ARexx scripts and send entire scripts to ARexx to be executed.

The Houghton Mifflin Company's CorrectText™ Grammar Correction is the basis for Proper Grammar. The Houghton Mifflin Company has long enjoyed a high reputation in educational publishing. Anyone with an interest in how the program was developed should read Appendix A — "A Word from the Houghton Mifflin Development Team." I read with special absorption the section that explains how the developers avoided overflagging, which in other grammar checkers that I've tried only lead to a stilted piece of writing. One doesn't get the feeling of a nagging, prescriptive voice engendering writer insecurity with this program. It approaches its task with care and common sense.

I should note that there is a tutorial in which the novice user takes various approaches to edit errors. The document is a one-page letter which can be "corrected" in about five minutes; this brief run-through is enough to get anyone started, so easy is the program to use.

Let me return to the point where I started. Everyone who writes needs an editor, just as athletes and opera singers have coaches. I wonder how well-known Ernest Hemingway, F. Scott Fitzgerald, or Thomas Wolfe would have become were it not for the consummate skill of Maxwell Perkins at Scribner's. If you want an editor that doesn't slow you down to the point of discouraging you from its services, then Proper Grammar is *it*.

•AC•

Proper Grammar
Price: $99.95
Inquiry #200
System requirements:
Minimum 1MB of RAM
Softwood, Incorporated
P.O. Box 50178
Phoenix, Arizona 85076
(800) 247-8314

Please write to Paul Larrivée c/o Amazing Computing, P.O. Box 869, Fall River, MA 02722-0869.

bug bytes

The latest in tips, workarounds and upgrades

by John Steiner

product: Workbench 2.0
re: fix for problems encountered when attempting to abort the print function in various programs
source: CompuServe posting

Electronic mail from Compuserve brought another letter from Jim Murphy. You may recall that last month, Jim reported finding a problem with system hangup under Workbench 2.0 when he chose STOP from Deluxe Paint or ProWrite print menus. I confirmed his symptoms with both DPaint and Professional Page. Jim reported that there is a later version of Kickstart/ Workbench, (KS 36.303, WB 36.102) and with that combination, the problem appears to be solved. The day after I read his letter, the local Amiga dealership received a letter from Commodore that included four new Workbench 2.0 disks. The set is marked Version 2.03 and consists of new Install, Kickstart, Extras and Workbench disks. The letter from Commodore goes on to announce that this release is to be the last revision of 2.0 before the final version will be made available sometime in "Calendar Q3, '91." The letter continues by stating that Workbench 2.0 "has a faster and more reliable file system and will support outline font technology." The upgrade disks are to be freely distributed to anyone with an Amiga 3000 who is using Workbench 2.02 or earlier. There is no charge for the upgrade; however, your dealer is authorized to make a minimum charge for new diskettes or copying if provided.

product: Panasonic AVE-5, MX-12, and MX-12 AV mixers
re: hardware combination that allows using two input VCR's with the Video Toaster without a TBC
source: CompuServe posting

Also in the CompuServe mailbox was a letter from Rawli Puig, a frequent contributor to this column. Rawli writes that he has found a hardware combination that allows you to run a Video Toaster and two input VCR's without having to purchase a TBC (Time Base Corrector). He comments, "If you want to use the Toaster and two VCR's, you can use the Panasonic AVE-5, MX-10, or MX-12 AV Mixers. These are not TBC's; they are AV-Mixers that use Frame Sync Chips. The AVE-5 is the better buy ($1800) compared to the TBC's which run about $2500. A bonus is that when you use the AVE-5, you can add an on-line PIP (picture-in-picture), Strobe, as well as a still frame which is great for framestoring!" He goes on to report that he has used this configuration for four months. If you set the AVE-5 up properly, hook the program output to Toaster input #2 (Record A), and hook the preview up to Toaster input #1, and adjust the sliders correctly, you will have one inexpensive piece of video hardware.

product: WordPerfect 4.1.12
re: a bug and a bug-fix in the program's latest release
source: PeopleLink posting

From PeopleLink, EMail from John McCollister described a bug and a bug fix in the latest release of Amiga WordPerfect 4.1.12. He reports that he was looking forward to the new "Preview" function. However, when he tried it on his A2000, he got an Intuition lockup. The people at WordPerfect told him that they had also discovered the bug, which appears when certain PD programs, such as PopUpMenu, are running and the Preview function is selected. John included a simple script file that will work around the bug. First, create a project icon for WP and launch the following script via ICONX, or launch it from the CLI:

```
SYS:c/PopUpMenu ;(Assumes PopUpMenu is in your C directory; unloads it)
SYS:C/CD WP ;(Assumes wp resides in the "WP" directory on DH0:- adjust
; to work with your own hard or floppy disk based system)
WP ;(Launches WordPerfect)
SYS:C/CD SYS: ;(Makes DH0:/SYS: current directory after closing wp)
SYS:c/PopUpMenu ;(Reloads PopUpMenu after finished with wp)
```

This script can be an ARexx script, if desired, or plain old AmigaDos. Some systems may need a "Wait 1" delay between commands in the script... and the script works fine from programs like MyMenu.

product: MegAChip 2000
re: problem with the MegAChip and revision 4.3 Amiga motherboards
source: PeopleLink posting

Chris Lord sent EMail about his recent purchase of the MegAChip 2000, a hardware upgrade that allows Amiga 2000 systems to access 2 Megabytes of Chip RAM. His letter, which is too lengthy to reprint in its entirety here, reports of a problem with the MegAChip and revision 4.3 Amiga motherboards. DKB, makers of the MegAChip, told him that rev 4.3 motherboards have a capacitor missing at location C908, which is located at the upper left of the Agnus socket near the crystal oscillator. There is a silkscreened place for it but no capacitor is included. He comments having some trouble with soldering connections on the board and on wired interconnects as well; however, once all of the connections were made solidly, the board worked properly. He is happy with the board, and recommends it for those who want to take advantage of an extra megabyte of Chip RAM without buying an A3000.

product: A500 and A1000 expansion boxes
re: engineering improvements that make A200 style boards work properly in the boxes
source: reader response

In the U.S. mailbag, a letter from Robert Davis of Salina, KS, described solutions to several engineering problems with A500 and A1000 expansion boxes. The boxes, which he said were known variously as the Phoenix Expansion Box, the Toolbox, and the ToolBus, can all take advantage of some engineering changes to improve their performance. His letter contained three pages of notes regarding these improvements. He reports that his improvements make nearly all A2000 style boards work properly in the boxes. If you are using one of the above mentioned boxes, you might be interested in reading about the modifications. Modem users can access The Boarding House at (913) 827-0744. This BBS system contains the file EXPBOX.MOD, which is a Pagestream 2 file with all latest changes incorporated, and available for downloading. If you don't have a modem and wish to have a copy of these changes, send me a self-addressed stamped envelope, and I will send you a photocopy of the three pages of information he provided.

product: SuperPlan v1.02
re: information on control of printing options in rotated mode
source: reader request

Bruce Armstrong of Orangeville, Ontario, wrote with a request for information on using SuperPlan version 1.02. He comments that after two letters and a phone call to the developers, Precision Software, they have not responded to his problem. He would most like to know how to get control of printing options in the rotated mode. He comments, "When I switch to the rotated mode, I lose control over the text mode (draft mode is the default), lines per page, margin, initialization, and termination. What this means is that I cannot get a small spreadsheet (13 columns by 55 rows) to print on one page." If you have any solutions to this problem, let me know. I will forward the information to Mr. Armstrong.

product: Superbase version 4
re: major upgrade
source: Precision Software

Another upgrade that has been made available only to registered users is a new release of Superbase. Superbase version 4 is a major upgrade, and only users who have registered their earlier versions of Superbase will be eligible for discount pricing on the new version. Precision Software does not require the end user to send in any disks or manuals to get the upgrade. Among the program's many advanced features are

(continued on page 62)

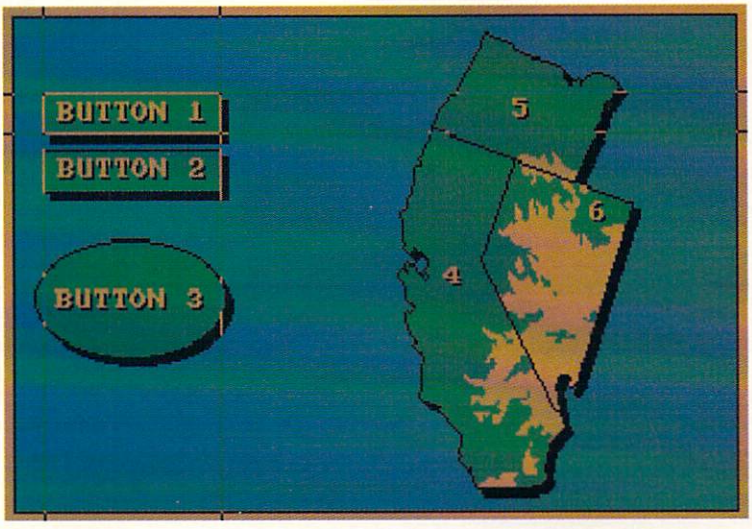
RIGHT ANSWERS'

The Director Version 2

by Greg Epley

IN 1987, RIGHT ANSWERS, INC. released a powerful display and animation language for the Amiga known as The Director. It was the first package to offer a virtually unlimited set of options for multimedia presentation. Since then, the company has been listening to suggestions from users and working on some improvements of their own. The Director Version 2 (henceforth The Director) is the result.

The Director works under both the 1.2/1.3 and 2.0 operating systems. In fact, this is one of the few multimedia packages which runs on *all* Amigas. One megabyte of memory and two floppy drives or a hard drive are recommended. The program will work with 512K of memory and one floppy drive but these limit what you can do. The Director "knows" certain things about the machine it's running on and adjusts for these, such as for NTSC/PAL video or different kinds of processors.



The brand-new button utility. Buttons are "hot spots" or invisible selection areas defined over graphics.

THE COMPLETE PACKAGE

This is one of the best manuals I've ever seen but it falls short in some areas. The small, black looseleaf binder it comes packaged in lies open flat—a big plus when you're trying to go through the tutorials. It is broken into seven major sections: Introductory Tutorial, Reference, Modules, Library, Utilities, Appendixes, and Command Index. Commands are grouped by function in the Reference section, rather than alphabetically as in the Version 1 manual, and are alphabetized in the Command Index (two pages printed on heavy card stock). The Appendixes section contains an assortment of information on the standard file requester, arithmetic and logical operators and their hierarchy, a list of the "vi" extended editor commands, reserved variable names, TOOLTYPE parameters, a complete list of error messages, a discussion of compatibility with Version 1, information on running the programs from the CLI, hints on debugging, and a brief (and somewhat incomplete) index.

The Program and Tutorial disks come crammed full of everything you need—and more! The entire system—editor and utilities—is designed to run from the Workbench. The Program disk has a new integrated editor DEdit, The Director "compiler" D2, the freely distributable Projector player proj2, four Modules which support optional sets of commands (Sound, SMUS, IFF, and FileReq), several sample Libraries, four very useful Utilities (Blit, Button, Polygon, and SMUS Examine), and the scripts for the Blit and Button Utilities so that you can add your own features. The Tutorial disk has over 40 sample scripts and a collection of instruments, pictures, sounds, and music. The demo scripts are quite good and really show off all the capabilities. I particularly enjoyed fiddling with the "spritetest" demo.

DIRECTOR BASICS

The Director is a programming language so you must do some typing, rather than clicking on icons in a graphical interface as with AmigaVision, CanDo, DeluxeVideo III, or Scala. There are two major reasons for The Director's programming interface: (1) It conserves memory. A graphical interface typically consumes a lot of user memory, while an editor such as DEdit doesn't. (2) It offers maximum flexibility and features. You can often do things with a language which

are impossible with a product having just a graphical interface.

If you like BASIC but have found it lacking in audio and video handling, you'll love The Director Version 2. Films (programs or projects) produced with The Director are small compared to standalone executable programs. You don't tie up valuable disk space with the same startup code in every program. And you need only a copy of the small, freely distributable Projector 2 player to use The Director films, whereas you must use the large AmigaVision program for AmigaVision applications.

THE EDITOR

DEdit offers several features designed to make it easier to create Director scripts. DEdit runs from the Workbench or CLI and appears as a window on the Workbench screen. This conserves even more memory because the Workbench screen is usually always open. The Director allows you to do some very complicated things with lots of memory-hungry audio and video data.

The Project menu options are New, Load, Save, Save As, Print, Configure, About, and Quit. Delete is available from the file requester in the Load, Save, and Save As options. Configure lets you set up and save a configuration file containing tab spacing, auto-indent on/off, script overwrite check on/off, default .film path, and settings for the 20 function keys—10 unshifted and 10 shifted.

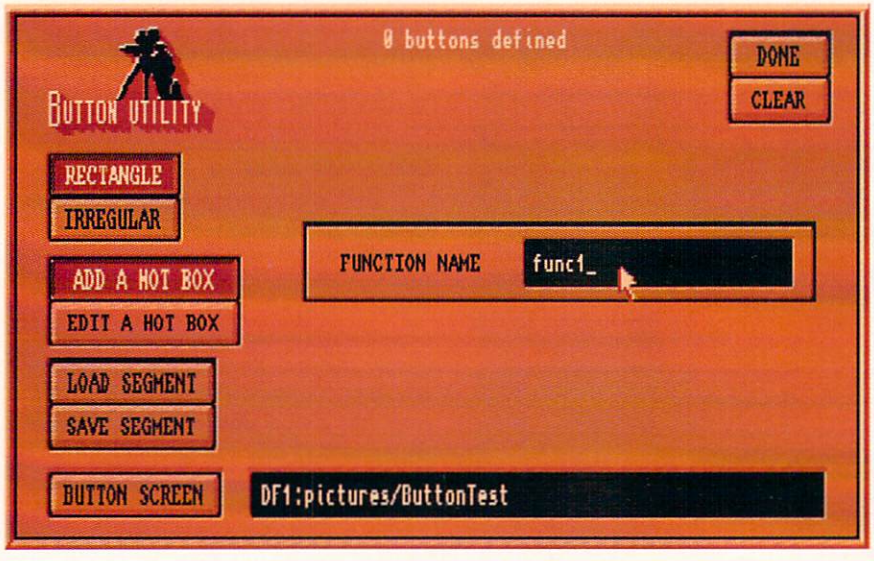
Options in the Edit menu include Undo, Cut, Copy, Paste, Join Lines, Status, Redisplay, Save Clip, and Load Clip. DEdit uses a single "clip" buffer for all operations that store information in the clip. Undo reverses the most recent editing operation, including itself! Status shows the file name, the line the cursor is on, the number of lines in the script, the character the cursor is on, and the total number of characters in the script. Save Clip and Load Clip let you save the contents of the clip buffer or load something into the clip buffer for later pasting.

The Search menu includes Fwd (Forward) Search, Bwd (Backward) Search, Next Search, Search/Replace, and Goto Line operations. Searches are case-sensitive and there is no way to turn this feature off. Next Search repeats the last Fwd or Bwd Search command from the current cursor position. I was somewhat disappointed with Search/Replace. Once you enter your search and replace text, you are given options to replace every occurrence (Entire Script), to Cancel, or to use the Next Occurrence. Next Occurrence replaces the next occurrence but returns you to the editor. It would be much more convenient to be able to move through the script, selectively replace, and cancel when done. Goto Line lets you enter a line number to move to in the script, and has nothing to do with the numeric line labels The Director supports.

The Tools menu options include Library, Use Segment, View IFF, Coordinates 1, Coordinates 2, and Select File. Library brings up a file requester showing the libraries in the library drawer (directory). After you select a library, the proper include command line is added at the beginning of your script (libraries will be discussed later). Use Segment automatically pastes script text generated by one of the utilities at the beginning of your script. Since the clip buffer is used for this information, you can also Paste the segment or save it (Save Clip). View IFF lets you select an IFF image to view from a file requester. When you return to your script, you can Paste the full filename into your script at the current cursor position or use the Coordinate functions. The width, height, and number of colors in the image are displayed at the bottom of the DEdit window. Coordinates 1 lets you drag a rectangle out on the IFF image viewed with View IFF, and then Paste the coordinates into your script in the form of the BLIT or DISSOLVE commands. That is, source x, source y, dest x, dest y, width, height. Coordinates 2 is similar, but the coordinate information is in the form of the RECT command—upper left x,y and lower right x,y. Each of these options also prints the information at the bottom of the DEdit window. Select File pops up a file requester so you can select any file and Paste the full filename into your script at the current cursor position. Select File works with any file but does not show the file contents.

The Run menu has only one option—Run. Run automatically saves your script, runs the script through the D2 program to produce a .film file, and runs the .film file with the Projector. DEdit shuts down during this process to free the maximum amount of memory for your project. Run does not perform overwrite checking before saving the script, even if this is turned ON in Configure. When your script terminates or an error is detected, DEdit reappears, your script loads, and the cursor is either positioned on the line with the error or the position where you left it. If an error is detected, a requester pops up to briefly describe the error, such as "missing quote in line 5". The editor does not flag or catch errors during script entry; only the D2 program flags errors, and only one at a time at that. You must repeatedly run your script through D2 to find each error! This is very inconvenient.

Run involves some disk activity you might find annoying with a floppy system, but you can reduce this by saving all files in RAM: or a recoverable RAM disk such as RAD: or VD0:. However, you



LEFT: Giving your button a name—this is a unique label used in your script to act on the button.

should periodically save your script file to disk. A new .film file can always be generated from your script, but a script cannot be generated from a .film file.

The User Menu is *your* menu. The file DEdit.User.Menu contains a list of item names and corresponding CLI commands to execute when an item is selected. A maximum of 23 menu items can be defined. The default menu file has items to run the included utilities—Blit, Button, Polygon, and SMUS Examine.

DEdit is a basic point-and-click text editor. Cursor positioning and editing are usually handled with the mouse. A vertical slider on the right side of the window lets you move quickly up or down through your script. Standard Amiga "hot keys" are available for most functions. For those accustomed to a keyboard command editor, DEdit offers an extended set of expert commands based on the standard UNIX "vi" editor. You can enter the proper "vi" commands directly from the keyboard or store often-used sequences under function keys. I would rather have an EMACS-style emulation, but the ability to store "vi" sequences under any one of 20 function keys makes this bearable. The editor reacts somewhat sluggishly with larger scripts, about 10K or more in size. You cannot edit two or more scripts at one time. You could run the editor several times, or use Load Clip to load another script and Paste it into your current script, but neither option is acceptable to me. The vertical slider tends to "pull away" sometimes when you're trying to move to a new position in the script; it also does not update in real time if you hold down on the slider button while you're moving it. An auto-uppercase option for all Director commands would be nice, but the editor is slow enough right now without that extra overhead. Director commands are not case-sensitive but scripts are easier to read with commands in upper case. You'll have to program the function keys with often-used keywords if you want this. I expected to see the standard ARP-style file requester which Commodore has adopted as the standard for the Amiga under 2.0. The requester is implemented in such a way that there's no reason *why* the standard requester couldn't have been used under 1.2/1.3 and 2.0. Instead, you are presented with yet another "standard" file requester; in this case, the Path Master by Justin McCormick. I don't have anything against Mr. McCormick, but haven't we gotten beyond this file requester standard yet? The editor's launch program is hard coded to open a standard 640 x 200 Workbench window, even if Workbench is interlaced. You could use a program like NewZAP or a similar file editor to change the "200" to "400" but not everyone is that technically inclined. The Configure item in the Project menu should have an interlace option if nothing else, but the window really should simply adjust on its own. If you don't like DEdit, it is possible to use the RAM-based clip and error files generated by D2 and the Utilities to drive a programmable editor (DME, UEdit, etc.). However, you forfeit DEdit's features from the Tools menu doing this, and you still can't find more than one error at a time with D2.

THE UTILITIES

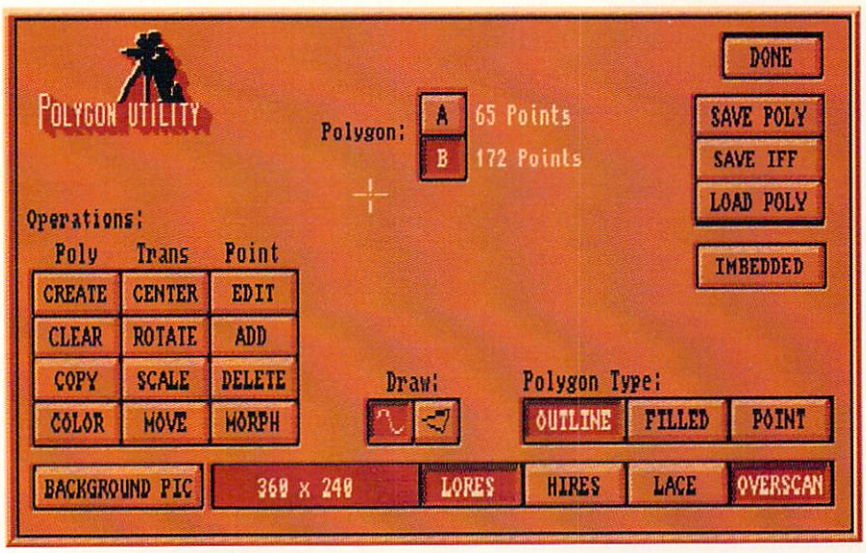
The utilities included with D2 are an added bonus. I had to purchase the separate Toolkit disk with Version 1 to get most of the utilities supplied with D2. Most of the Version 1 utilities are now integrated into DEdit, one of the utilities, or one of the new Director commands. All of the utilities (except for SMUS Examine) generate segments of Director commands which can be saved as separate files and included or pasted into your script.

The Blit Utility is much improved over the old Toolkit EBU (Enhanced Blit Utility) or The Director Version 1 BU (Blit Utility). Frankly, I never used BU or EBU because they were more of a nuisance than an aid. I substituted features of DeluxePaint III or wrote my own utilities instead. The new Blit Utility has a more stylish look, is more user-friendly, and seems faster to me.

The brand-new Button Utility is very powerful in generating the complex segments of Director statements required to use the new BUTTON command in D2. Buttons are "hot spots" or invisible selection areas defined over graphics. A classic use for hot spots would be to construct a map of the United States which displays the name of each state a user selects with the mouse. You can define rectangular or irregular buttons with this utility, edit them as much as you like, and load or save button definition segments. After you define a button, you are asked to give it a function name. This is a unique label used in your script to act on the button. Irregular buttons use an additional graphic, called a "mask", which is a solid color representation of the irregular button area. After you create this mask, the Button Utility helps you select it properly and generates all the complex data required to use the irregular button.

The brand-new Polygon Utility is also very powerful and can generate some very complex segments of Director statements for drawing and animating. Another new feature in D2 is the use of "movement paths". You can use the Polygon Utility to define movement paths for still or animated graphics (D2 also supports DeluxePaint III's ANIM Brush). Consider this example: you want an animated spaceship to fly across a scrolling

(continued on page 52)



RIGHT: The new Polygon Utility is very powerful—you can use it to define movement paths for still or animated graphics.

REVIEW

SOFT-LOGIK'S

PageStream v2.1

by John Steiner

WITH THE RELEASE OF VERSION 2.1 of PageStream, Soft-Logik Publishing has focused their attention not so much on pinning more features on to this major player in the Amiga desktop publishing software market (though new features are of course included). Rather, the company has sought more to streamline and enhance those features that have caused users to regard the program as a powerful desktop publishing package.

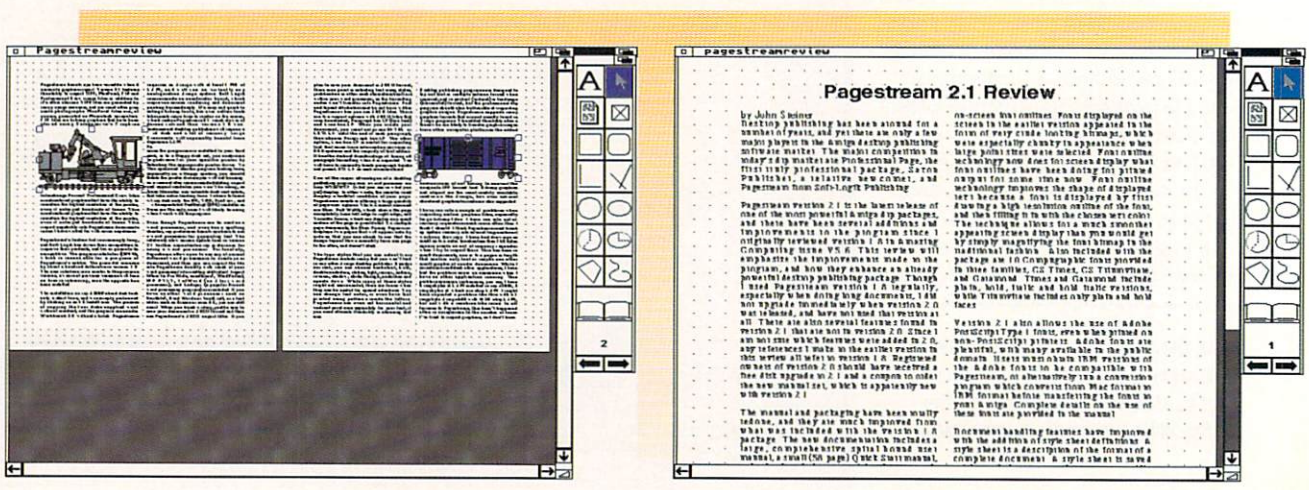
PageStream version 2.1's documentation includes a large, comprehensive spiral-bound user manual, a small Quick Start manual, and a keyboard shortcut quick-reference card. The manual's index is much improved over that of previous versions, both in size and in cross-referencing ability.

On-screen Font Outlines

Among the most useful improvements in the software itself is the inclusion of on-screen font outlines. Font outline technology does for screen display what font outlines have been doing for printed output for some time now. Font outline technology improves the shape of displayed text because a font is displayed by first drawing a high-resolution outline of the font, and then filling it with the chosen text color. The technique allows for a much smoother-appearing screen display than that achieved by simply magnifying the font bitmap in the traditional fashion.

Also included with the PageStream package are 10 Compugraphic fonts provided in three families—CS Times, CS Triumvirate, and Garamond. Times and Garamond include plain, bold, italic, and bold-italic versions, while Triumvirate includes only plain and bold faces.

Version 2.1 also allows for the use of Adobe PostScript Type 1 fonts, even when printing on non-PostScript printers. Adobe fonts are plentiful, with many available in the public domain. Users must obtain IBM versions of the Adobe fonts to be compatible with PageStream, or alternatively run a conversion program which converts from Mac format to IBM format before transferring the fonts to your Amiga. Complete details on the use of these fonts are provided in the PageStream manual.



PageStream v2.1 provides great versatility in the areas of graphics importation and page view options.

Power Plus Versatility

Document handling features have been improved with the addition of style sheet definitions, a description of the format of a complete document which is saved with each document that uses specific paragraph tags (a tag is a shorthand description of a collection of text attributes such as point size, font selection, style, and others). The collection of tags used in a specific document can be exported for use in other documents as a style sheet. If you want a consistent appearance from one document to the next, style sheets will help ensure that the same type characteristics are utilized in all your desktop publishing endeavors. PageStream's macro capability provides even greater power by allowing up to 256 keystrokes to be completed at the entry of a single macro command.

PageStream has always been versatile in the area of graphics importation. Version 2.1 features the ability to import TIFF, MacPaint, GIF, and Professional Draw image files among others. TIFF files are generated by many image scanners, and are most often grayscale photographs. MacPaint files are, of course, generated on Macintosh computers. GIF files are bitmap graphics that have been stored using CompuServe's Graphics Interchange Format. Professional Draw files are structured graphics that have the ability to maintain the highest resolution of the printer, even if enlarged hundreds of times.

Installation and Operation

Installation of the program on my A3000's hard disk—being simply a matter of clicking on an HDInstall icon—took only a short time. The process of copying the four disks supplied went without incident; the program runs under Workbench 2.0 without a hitch. PageStream requires an Amiga with at least 1MB of RAM, and will run on virtually any configuration Amiga system. Soft-Logik recommends an accelerator board, which improves screen rendering and document printing tremendously. And while it's easy to enlarge bitmap fonts, outline fonts take much more time to render on screen, making PageStream 2.1 rather slow at screen refreshes. Large documents will especially benefit from expansion RAM.

Once the programs are installed to your hard disk, or to a floppy disk set, customize PageStream for your specific printer by selecting the appropriate printer driver. To save space and shorten program loading time, especially on a floppy system, delete the printer drivers you will not be using. The manual also recommends deleting import and export modules you won't be using, as these files also use valuable disk real estate and require extra loading time.

PageStream can be used as a word processor (the program includes a spelling checker), although factors such as the relatively slow screen update time of version 2.1 might well dissuade users from relying on the program for initial text generation. Fortunately, PageStream allows you to use any of several different word processors to create your document, and you can then import the file into PageStream directly with much of your word processor's formatting still intact. Import filters for ProWrite, excellence!, WordPerfect, IFF FTXT, 1stWord (an Atari word processor), and Rediger (a popular French word processing program) are included. If you have another word processor such as Scribble!, Kind Words, or TextCraft, or a text editor such as Emacs or even ED, you can still use it. When you finish writing, just be sure to save your document in ASCII format and then use PageStream's ASCII import filter.

If you plan to save your document in ASCII format, there is no point in selecting font sizes, styles, justification or other such characteristics from within your word processor, as the formatting codes won't transfer into PageStream. Font and layout attributes must be set from within PageStream when you use ASCII files. There are two import options with ASCII files that may be selected: "Paragraph has LF (line feed)" and "Line has LF." When you create your document, you must not press ENTER or RETURN until the end of each paragraph, then choose "Paragraph has LF." The other option, "Line has LF", is useful for importing text from information services or BBS systems and the majority of text editors. It has the distinct disadvantage of losing all paragraph formatting when text is imported.

One of the major advantages of a desktop publishing program over a word processor is a true WYSIWYG display. In other words, the monitor displays a faithful rendition of your page. PageStream excels in offering a large quantity of page view options. These include Show Full Width, which shows the page completely from left edge to right edge, and Variable Zoom, which can display any small section of the page in great detail. On multiple page documents, the Show Facing Pages view displays two pages that will appear side by side so you can be

PageStream has always been versatile in the area of graphics importation. Version 2.1 features the ability to import TIFF, MacPaint, GIF, and Professional Draw image files.

sure that the design layout flows smoothly from one page to the other.

PageStream type styles include many you won't find in any other Amiga desktop publisher. Besides normal, you can choose backslant, bold, double underline, italics, light, mirror, outline, reverse, shadow, strike through, underline, and upside down. You can change text color, or even have text printed using patterns inside the letters. PageStream can even set horizontal and vertical point size separately for ultimate flexibility in choosing text size.

Desktop publishing programs are designed to lay out text in multiple column format when required, and in portrait (vertical) or landscape (horizontal) format, but the professional dtp program should also be flexible in importing graphic images. PageStream supports many graphics formats that are not usually found in Amiga programs. This added flexibility affords those who are likely to transfer graphic images from other computer platforms the added convenience of not having to convert the images to IFF format first. Bitmap graphics and clip art are the most readily available media on the Amiga; however, several structured graphics formats are also supported.

I have encountered a few problems when importing certain graphics files, especially large bitmapped files. I have run into out-of-memory requesters on several occasions. PageStream must break up system memory into several fragments as it works on drawings. I have had drawings as small as two color brushes less than 150 bytes square create an out-of-memory requester when I tried to import them. This has occurred in small documents, one or two pages in length that contain only text or maybe one other small graphic of similar dimensions. While I sometimes multitask other applications, this problem has arisen on occasions when no other application was running. This concerns me because I have 6 megabytes of RAM installed in my A3000, 2 megabytes of which are CHIP RAM. In all fairness to PageStream, this hasn't happened often in comparison to the number of times I've imported graphics, so I don't know if I'm dealing with some random bug or just a computer system that happens to have highly fragmented memory.

Clip-art Capable

One capability I have anxiously awaited is the Professional Draw import filter. Many of my documents use the structured clip art I have created in Gold Disk's Professional Draw, and with Professional Draw's limited text handling I often need to import them into a desktop publisher. Gold Disk has not made information about the structure of a Professional Draw clip file public, thus keeping others from using the format. As a result, I have had to continue using Professional Page as a layout tool since, up until now, it has been the only program available that could import Professional Draw clip art.

In an effort to allow Professional Draw users to use clips with PageStream, Soft-Logik has reverse-engineered the Professional Draw clip format and included an import filter for the format in version 2.1. I wish I could report that the filter works perfectly; however, I have found that it does not work with a number of clips. In fact, there are times when the simple action of importing a clip causes PageStream to crash.

Clip files made with the Auto Trace program provided with Professional Draw appear to be incompatible with PageStream's Professional Draw filter; however, a quick workaround for this problem is to simply load the clip made with the Auto Trace program into Professional Draw, and resave it. By doing this, you will evidently make the clip compatible with the import filter. On the positive side, PageStream's powerful structured graphics editing features can actually edit an imported Professional Draw clip, something that cannot be done with Professional Page.

PageStream provides four ways to flow text around graphics. This makes it easy to insert graphics into pages which have already been through the text-layout process. The powerful graphics-creation tools in PageStream even include a bezier curve tool, which allows sophisticated structured graphics to be placed in your document without your having to purchase a dedicated drawing program.

Thanks for the Support!

The proof of any desktop publishing program lies in the printed output. I tested PageStream on a PostScript laser printer, and an Epson-compatible 9-pin, dot-matrix printer. Using PageStream with a dot-matrix printer, fonts print beautifully if your printer is supported by one of the many included print drivers (there are drivers for over 50 printers so this should not present much of a problem; a call to Soft-Logik technical support should verify whether or not you have the latest specific printer driver you need). PageStream will even print a landscape image properly on a dot-matrix printer. With Gold Disk's Professional Page, the only way you can get a landscape page from a dot-matrix printer is by using a wide-carriage printer and 15-inch-wide paper. This one capability of PageStream should make it the desktop publishing program of choice for those without access to a PostScript printer.

PageStream also supports laser printers nicely. There are two kinds of laser printers available in today's market, PostScript and LaserJet format. The least expensive, and least versatile for desktop publishing use, is the LaserJet format printer. Most manufacturers of laser printers emulate one or more of the Hewlett-Packard LaserJet series of printers, but be aware that you will need at least one and a half—maybe two—megabytes of RAM installed in the printer for a full page to print. PostScript printers almost always have at least two megabytes of RAM already installed, and they often have a wide variety of fonts. If you want to use PageStream with most PostScript printers, I highly recommend that you invest another $75 in Font Pack Plus, a 35-font set that will drive the internal fonts built into many PostScript printers. The package is available directly from Soft-Logik.

PostScript printers have other advantages over LaserJets that justify their higher cost. They tend to be much faster, and they can print Encapsulated PostScript (EPS) files. This is not necessarily a major advantage unless you have access to the large number of EPS clip art files available. EPS files will not print on dot-matrix or LaserJet-type printers. One other feature that PageStream and other Amiga DTP programs lack is the ability to show most EPS files on screen.

Without getting too technical, there are three types of EPS files. EPS files cannot be displayed on an Amiga

screen because they require that the system have a PostScript interpreter. To allow desktop publishing programs to display an image that may be sized and cropped, many EPS files have a screen-displayable bitmap portion. The only information PageStream does not read is the Mac Pict. Header. All you will see of an EPS file of either of these types is a box with an "X" through it. There is one type of EPS file that PageStream can display, however. According to the manual, if the EPS file has a TIFF format bitmap portion, PageStream will display the bitmap correctly.

PageStream also supports both color and high-resolution PostScript typesetters as well as laser printers, and if you want professional-quality typesetting, you can get it from PageStream's PostScript driver. One PostScript-related feature I found lacking here is the ability to export an EPS file. I often import EPS files from Professional Page into documents created on a Macintosh or IBM system. With an Export filter for EPS, you would be able to give your PageStream-created documents to anyone with an IBM or Macintosh for inclusion in their desktop-published documents. Note that there is only one way for EPS files to be edited: by printing them to disk for modification. EPS export would also allow much easier printing on IBM and Macintosh-based systems.

Some Final Observations

One aspect in which I feel the PageStream program is certainly lacking is its file requester. A simple convenience that many Amiga programs offer is the ability to double click on a filename in the file selection list in order to choose it. With PageStream, you must first click on the filename to load it into the filename string gadget, then drag the mouse button over to the Load button and press OK.

With the inclusion of the Compugraphic fonts, I have somewhat tempered my criticism of earlier versions' lack of professionalism in their included font designs. Though I'm still not overly impressed with the selection of included fonts, the larger selection is a tremendous improvement. On the positive side here, the program works with the Compugraphic fonts available from Gold Disk as well, so you can easily add seven more families of CG fonts. Also there is a wide variety of PageStream fonts available in the public domain. Available for only the cost of a disk or downloading time from a BBS or information service, these PD finds may just be the font bargain of the century.

Version 2.1 is stable for the most part; however, I've witnessed its crashing more often than version 1.8 (the last version with which I worked extensively). The one difference here that must be taken into account is that I am running PageStream on my Amiga 3000 under Workbench 2.0, which is technically still in beta state. I have no way of knowing if these crashes are related to Workbench 2.0, or to PageStream itself. They don't happen often enough that I'd be able to tell for sure by booting up under 1.3 and running there either.

In addition to their technical support number, Soft-Logik lists a user support BBS; they also provide user support on CompuServe, GEnie, and PeopleLink. The Soft-Logik Forum on PeopleLink, which can be accessed by typing "/go Soft" at PeopleLink's main menu, also contains a library of public domain fonts, clip art, and many other items of special interest to PageStream desktop publishers.

PageStream has many features not found in any other Amiga DTP software at any price, and its low price makes the program an exceptional buy. Version 2.1 really didn't add many new features, but it tightened up and greatly improved the performance of an already feature-laden package. There are still a few rough cuts on this jewel of a program, yet you should find it a powerful addition to the toolbox you keep on your Amiga Workbench. •AC•

PageStream v2.1
Price: $299.95
Inquiry #231
Soft-Logik Publishing Corp.
11131 S. Towne Square, Ste. F
St. Louis, MO 63123
(800) 829-8608

Please write to John Steiner c/o Amazing Computing, P.O. Box 869, Fall River, MA 02722-0869.

REVIEW

VORTEX
COMPUTERSYSTEME'S

ATonce v1.27

by Richard Mataka

THE ATONCE IS A SMALL PRINTED circuit board that comes with special software designed to turn your Amiga 500 or 2000 into an IBM AT clone. While this is not a new concept—as evidenced by the Commodore XT and AT bridgeboards for the Amiga 2000—ATonce is conspicuously smaller, yet every bit as powerful as those aforementioned products.

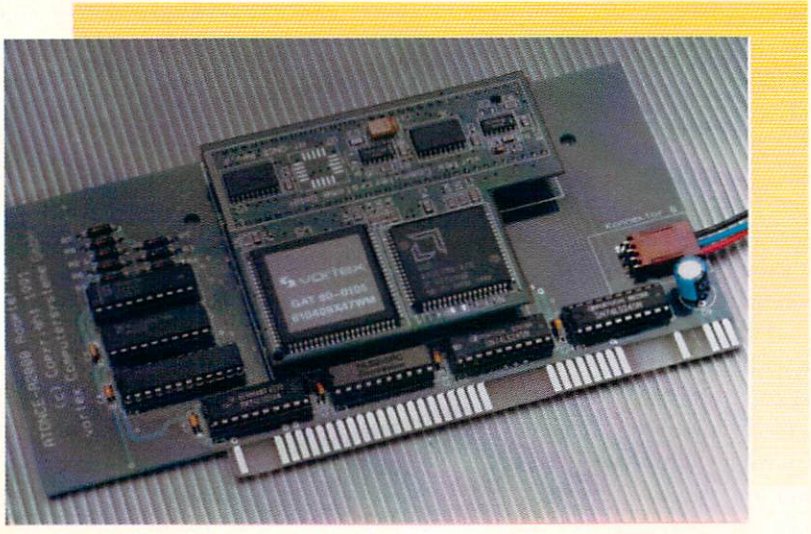
Why IBM?

There are those who may ask, "Why do I need an IBM computer?" The answer is: compatibility. In the United States and many other areas of the world, IBM computers and their clones are the defacto standard for business computing. Almost all large (and small) companies use IBMs or clones to perform some or all of their daily business.

While we may feel that the Amiga is superior with its graphics, sound, and multitasking capabilities, a majority of manufacturers create business software only for the IBM. If you were to compare the installed user-base of IBMs and their clones to the Amiga user-base, it would be safe to say that the Amiga still represents only a small percentage of the entire computer population.

So, first and foremost, an IBM emulator provides compatibility with the largest universe of business software. If it also plays some IBM games, you may consider that a bonus. And if an IBM emulator also lets you take full advantage of the Amiga's multitasking capabilities, we are talking about a truly phenomenal product!

What does the vortex ATonce v1.27 do? It runs IBM business software, it is designed to play at least some IBM games, and it fully multitasks with Amiga software with no problems whatsoever. Thus, you can work on a Lotus 1-2-3 spreadsheet in IBM mode while downloading a file from a BBS using JR Comm on the Amiga-tasking side. ATonce turns you into a "super power" user, able to employ a single Amiga 500 to run both the excellent software that is available for the Amiga and that for the IBM—*simultaneously!*

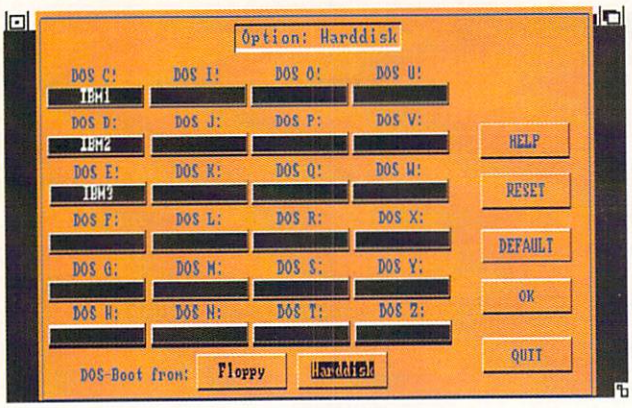


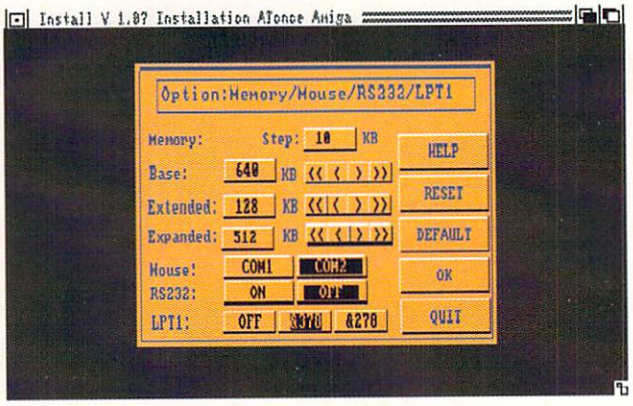
Here, the tiny ATonce PC board is mounted on the plug-in adapter for the Amiga 2000.

Here's What You Get

The PC board itself measures just 2.75" × 3.5". The ATonce package also includes a user manual, a special Gary Module that may not be needed, a 3.5" vortex ATonce system disk with Emulation and Installation software, and a 3.5" disk that contains DOS programs to support ATonce. All you need to purchase separately is the IBM DOS (either 3.3 or 4.0), and you are all set to run IBM software.

The ATonce user manual includes an introduction, a chapter covering the board's installation, and a third section on the emulator's operation.





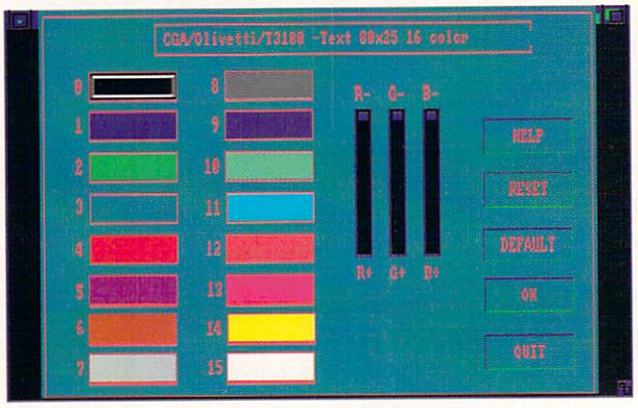


Figure 1 (above left): This screen is used to configure Amiga hard drives as IBM drives.
Figure 2 (above right): Available memory is allocated to the IBM area of the emulator via this menu.
Figure 3 (left): One of two menus used to set the screen colors for the different types of video adapters supported.

The installation chapter is well written and contains a number of helpful photographs depicting the entire installation process. The tools you will need to successfully complete the ATonce installation are also specified in the manual. Since ATonce comes with its own 68000 CPU soldered to the bottom of the board, the ATonce board can be installed directly into the Amiga's 68000 socket after removal of the system's original 68000.

If you own an Amiga 2000, there is now an adapter board available that allows you to place ATonce directly in your machine. Once the ATonce board is fitted into the adapter board, you place the adapter for the 2000 into a 100-pin expansion slot, and you still have the co-processor slot available for an accelerator card.

There is no adapter board available for A3000 owners as of yet. However, a vortex spokesperson has indicated that one should be available by the third or fourth quarter of this year.

A word of caution is necessary here for anyone who is not fully comfortable with the thought of opening their Amiga to install the ATonce PC board. Extreme care must be taken during this procedure, as both ATonce and the Amiga are sensitive to static electricity. Also, opening your Amiga on your own will most likely void its warranty. It is therefore best to have ATonce installed by a qualified Amiga service technician at the store where you purchase the product.

The final chapter of the user manual covers actual operation of the ATonce emulator. In this section you learn all of the features that can be customized for your Amiga configuration. The most important configuration options that you will have to deal with are the Floppy, Graphic Adapter, Hard Disk, and the Memory/Mouse/RS232/LPT1 menus.

The graphic select screen that appears when you choose the Floppy option lets you define which floppy will be used between IBM DOS and AmigaDOS. You also have the option of defining a 40-track drive. These are the 5.25" drives that are available to be connected to the Amiga. While I have not tested this option, I have no doubt that it works. My own personal configuration is two 80-track drives, DF0 and DF1 defined as IBM drives A and B.

The next option allows you to configure your hard drives as IBM drives (see Figure 1). This is accomplished by partitioning your Amiga hard drive using the software that comes with it. Once this is accomplished, you can name your drive IBM1 or IBM2, etc. Later, when your system is up and running, you can then format the partition in the IBM mode with no problem whatsoever. On this screen you also choose whether you are going to boot your system from floppy or hard disk.

The Graphics Adapter screen from the configuration program lets you choose the default graphics configuration that you wish the IBM to boot up in. But the default graphics configuration you choose here is not the only one available to you; special software that allows you to configure your terminal type *after* you have booted up in IBM mode is also provided. This

Some Specifications & Features ATonce!

- Low-power 80286 CPU.
- Integrated vortex CMOS Gate Array; contents include an Interrupt controller and Memory Manager.
- Compact SMT (Surface Mount Technology) printed circuit board with low power consumption.
- AT-compatible BIOS (Basic Input Output System).
- In A500 with 1MB RAM available, a full 640KB DOS memory can be used. If more than 1MB is available (with help from self-configuring memory expansion), this extra memory can be used as a RAM disk or as extra program memory (Extended or Expanded Memory for IBM or Windows 3.0 Protected Mode).
- Supports the following video emulations: CGA, Hercules, Olivetti, Toshiba 3100, VGA, EGA (the blitter is fully integrated).
- Runs as a process within the multitasking operating system of the Amiga.
- Full integration of the internal 3.5" floppy disk drives as 720KB MS-DOS disk drive. External 3.5" and 5.25" floppy disk drives are supported.
- The Amiga mouse is available under MS-DOS as a serial Microsoft Mouse (can be selected as Com1 or Com2). Users must provide their own MOUSE.SYS files, as they are not included with ATonce software.
- The parallel interface emulates LPT1 under MSDOS.
- The serial interface can be selected as COM1 or as COM2 (depending on the mouse configuration).
- Supports Commodore-compatible hard disk subsystems that use an AmigaDOS-compatible hard disk driver. Up to 24 partitions can be used under MS-DOS. With MS-DOS versions smaller than or equal to DOS 3.3, the maximum partition size is 32MB. With MS-DOS 4.00, the maximum partition size is dependent on the complete physical capacity of the hard disk. MS-DOS can be booted directly from a hard drive or a floppy.
- Supports the AT Realtime Clock and the CMOS RAM.
- Runs with all MS-DOS versions from 3.2 to 4.01.
- To make sure every registered user has the latest version of the emulation software available, package includes Vortex Update Service, whereby all registered users are automatically informed about all new software versions.—*R.M.*

VMODE.COM program allows you to change to any of the configurations available via the Graphics Adapter option screen. This is a powerful option that you may use often, depending on the types of IBM programs you are running and the level of graphics support they require.

The final menu is the Memory/Mouse/RS232/LPT1 options (see Figure 2). This menu is really not that difficult to configure. The base memory defines the standard size of the IBM system and will normally be set at 640KB. Next is the Extended memory and the Expanded memory that you wish to allocate to the IBM area of the emulator. The values you choose here are obviously determined by the amount of available memory in your Amiga system. I have 3MB of RAM in my system and have allocated most of the memory to Expanded, for Windows 3.0 support, and some for Extended, in case any programs need that extra memory. If all you have is a 1MB system, you can set the base memory only at 640KB and you cannot make use of either Extended or Expanded.

The final three options—dealing with Mouse, RS232 and LPT1—are pretty straightforward. Since you normally use the RS232 on COM1, you would set your mouse for COM2. Then, your COM1 port becomes active by default, unless you tell the program that you want it off. Setting LPT1 is where you will connect your printer on the parallel port. Here again, it is safer to choose the default of "&378", which is the IBM port address highlighted in Figure 2.

Figure 3 shows some of the additional controls that you have from within the configuration program. Here again it is menu-driven, and you can set the colors of the screens for the type of video adapter that you want the program to operate in. Or, set the screen colors to suit your own personal preference.

One of the most important areas to read is not included in the user manual, but appears instead in the READ.ME file on the Amiga disk provided. This file contains a great deal of information that does not appear in the printed manual, and I cannot stress enough the importance of reading this file. Print out the file for future reference, as it not only gives you valuable additional hints on the physical installation of ATonce, but also details changes that have been made to the software since the user manual was printed.

Installation

The physical installation of the ATonce board is a simple matter. If you are comfortable with opening your Amiga 500 or 2000 computer and can follow detailed instructions, then you should have no problems. However, if you feel any indecision about performing the operation, then you should let a qualified technician perform the install.

I installed ATonce myself in an Amiga 500 with a Revision 5 motherboard. Some minor problems encountered with this Revision motherboard were unique; I'll discuss

them in a moment. Following the instructions in the manual, carefully open the case of your Amiga with a Phillips screwdriver (or other specified screwdriver or ratchet) to expose the shielding. Next, remove the cable for the keyboard and then the metal shielding. Take the 68000 chip out with a flat head screwdriver and simply insert the ATonce board into the 68000 socket.

The last step is installation of the Gary chip adapter, which is where I encountered some minor problems. I found that if you have a Revision 5 motherboard, you cannot use this adapter. If you attempt to use the adapter, your system will not boot up at all. According to technicians I spoke to at stores selling ATonce in the New York City area, on all of the other revision motherboards the Gary chip adapter works fine, but you must pay attention to the Revision motherboard in performing the installation. It took me only about 25 minutes to install the ATonce hardware.

Installing ATonce in an Amiga 2000 system is a simpler process than that described above, but you do need to purchase vortex's plug-in adapter board. ATonce plugs into this adapter board and the board plugs into one of the 100-pin connectors on the A2000, leaving the co-processor slot available for accelerator boards. Just load the software and you are off and running!

Operation

The ATonce software can be loaded in one of two ways. First, you can use the Hard Disk Install program that comes with the software. The second option is to copy all of the files from the floppy to your hard drive. I chose the latter method and encountered no problems at all.

Next, you must configure the ATonce software with the special configuration program mentioned previously. In the AT-Emulator Workbench screen this configuration program is known as "install". However, the first time you attempt to run the ATonce software, you should stick with the default configurations so you can be sure that everything is operating properly.

What you will need to start ATonce operating is a floppy disk that contains MS-DOS. I have tested versions 3.3 to 4.1 of MS-DOS on the emulator and have encountered no problems whatsoever. Booting from a floppy is really the only choice that you have the first time, as you have not yet set up any hard drives for the IBM.

When you double click on the "atonce" icon your system resets, and in a few seconds a memory test takes place. Also, the chosen configuration is printed on the screen. What you should see at last is an "A>". What you are doing now is running in IBM mode. However, you will still see disk activity as your system is also booting up AmigaDOS. Now you are using the multitasking capabilities of your Amiga to their fullest and perhaps most desirable potential, simultaneously running both Amiga programs *and* IBM programs!

Another powerful feature of ATonce is its IBM video emulation ability. Six different video emulations are currently supported: CGA, Olivetti, T 3100, Hercules, EGA, and VGA. The first three are 16-color video modes; the Hercules, EGA, and VGA modes are 16 shades of black-and-white. When I questioned a vortex spokesperson regarding EGA and VGA color support, I was informed that this will be accomplished when Kickstart 2.0 and the ECS-Denise chip are officially available from Commodore.

IBM Software Compatibility

While I do not personally own an extensive library of IBM software, I did test many different programs. As a

benchmark, I tested Microsoft's Windows 3.0. This program ran extremely well in the Hercules emulation mode and also in the CGA 16-color mode. Figure 12 is a screen shot of Windows using the Hercules video emulation. Figure 13 is a screen shot of Lotus 1-2-3 running on the Emulator in CGA mode. Other programs that I have tested are ProComm Plus, WordPerfect 5.1, Pacioli 2000 Accounting, My Invoice, Prodigy, TurboTax Federal, and TurboTax New York State. Given the degree of reliable performance achieved with the IBM software I did test, I feel that ATonce will properly run just about any IBM business software. The obvious exceptions to this would be any software packages which demand the '287 math co-processor chip. Since there is no provision on ATonce for the installation of this math co-processor, this type of software will not work.

Concerning ATonce's handling of IBM entertainment software, I am unable to make a fully qualified judgment, as I did not personally test any games. However, game programmers are notorious for breaking programming rules. Often they write programs that contain direct calls to the BIOS (Basic Input Output System) or that look for specific hardware. So, some games may work correctly while others fail. Discovering which IBM games work and which do not can be determined only through trial-and-error testing on the part of the user. However, you probably would be safe by staying in the CGA video mode when it comes to games. Even here, some problems may be encountered.

CrossDOS

An interesting test that I performed was setting up CrossDOS by Consultron to read my IBM hard disk partitions that were formatted by IBM DOS. I had to use the 4.02 version of CrossDOS and create the special mountlist file for the hard drive partitions. Once all of these variables were set up in the mountlist, I was copying files back and forth from Amiga hard drive partitions to IBM drive partitions with no problems whatsoever. CrossDOS really made life tremendously easier in moving files between hard disk partitions. Anyone who is going to purchase ATonce will find CrossDOS to be an invaluable piece of software to add to their collection.

Conclusions

ATonce operates as advertised and performs its functions extremely well. Since I have been using ATonce, I have not encountered any problems in running any of the software that I have tested. I have told every Amiga user I know about this product, and I do recommend it highly. A vortex spokesperson has informed me that the company will provide free software upgrades and also that they will be releasing an Amiga 3000 adapter during the third or fourth quarter of this year. I am eagerly awaiting this new adapter board so that I can use ATonce in my A3000.

ATonce is a great product that rates a 10 in my book and should be considered for installation in every Amiga computer system. It operates as advertised, is reasonably priced, and for the money that you spend, it is well worth the investment.

•AC•

ATonce v1.27
Price: $398.00
Plug-in adapter for A2000
Price: $100.00
Inquiry #232
vortex Computersysteme GmbH
Falterstrasse 51–53
D-7101 Flein bei Heilbronn
Germany
(011) 49-713-159-720

Please write to Richard Mataka c/o Amazing Computing, P.O. Box 869, Fall River, MA 02722-0869.

*(**Director**, continued from page 41)*

starfield background. If you generated this as a DeluxePaint III animation the file might be as large as 350K or more!

Here's the same thing done with D2: create a wide starfield graphic background using DeluxePaint III; create an animated spaceship ANIM Brush; create a movement path for the ship to fly across the background using the Polygon Utility; finally, write the remainder of the script to pull it all together. This sounds very complex, but actually the most complex part of the script is the movement path which the Polygon Utility generates for you. You need only write the commands to load the background image and the ANIM Brush, scroll the background image, and start the movement of the ship. With D2's enhanced ANIM control commands this is a fairly simple script, and best of all, the entire presentation could be 50K or less! The Polygon Utility has so many features and so many possibilities, there's just not room enough to cover all of them here.

The SMUS Examine utility lets you examine the contents of a SMUS (Simple MUsical Score) file. It pops up a file requester for score selection, then displays various information on the score. You may examine as many scores as you wish before returning to DEdit. SMUS Examine is the only utility which does not generate any Director command segments—its only purpose is to examine SMUS files. It shows the score name, how many tracks the score has, tempo, volume, and a list of instrument registers and their names. You can use this information to substitute different instruments, change the tempo or volume, or tell certain instrument registers to use a MIDI channel. You cannot make any of these changes using SMUS Examine. You must use a package which generates SMUS scores (such as SONIX or Deluxe Music Construction Set) to make permanent changes to the score file. You can make some temporary changes to the score using D2's optional set of commands in the SMUS module. However, just because SMUS Examine can display information on a score does not necessarily mean that D2's SMUS module can play it.

THE MODULES

Modules are used with D2 to provide an optional extended set of commands. More modules are planned for D2 (a videodisc module, for example). Modules run as separate processes so they can perform their functions independently while other operations are going on. You can use several modules at one time, but you are limited to eight or 10 by the number of signals the Amiga can practically handle at one time. The existing Sound module has a few added improvements, but the IFF, SMUS, and FileReq modules are all brand new. All modules share one major fix: under Version 1, once a KILL (terminate) command was issued to a module, you could not reuse it later in the script; D2 modules can be terminated and reused later.

The IFF module contains commands to save still IFF images or sequences of IFF images as animations. Most of the commands pertain to storing or generating animation file information. The IFF Module generates Op Mode 5 (DeluxePaint III ANIM) and Op Mode 5/XOR (DeluxePaint III ANIM Brush) format files. The animation commands in D2 (outside the IFF Module) allow loading of older Op Mode 3 (original VideoScape 3D) format files and the above two formats. The included "MakeANIM" library uses IFF Module commands to insulate the user from the technicalities involved in properly generating ANIM files.

The Sound and SMUS modules contain virtually the same commands; it is redundant, and not recommended, to use both at the same time. The Sound module is smaller so it is best to use it if you're not playing a SMUS score. Both modules handle digitized sound samples. All SMUS instruments are treated as, and *must* be, digitized samples. But therein lies a problem. Some Amiga music software supports Amiga-synthesized instruments (these files usually have the .instr extension); most also support digitized samples as instruments (these files usually have the .ss extension). The SMUS module will not load the .instr files, and you must also rename all .ss files (without the .ss) before they can be recognized. There is no way to load a specific instrument, but you can test to see if an instru-

ment has been loaded into memory. The Amiga-synthesized instruments are generally smaller, and sound nearly as good as their digitized counterparts. While I agree that digitized instruments (or MIDI instruments) sound better, most of my large collection of SMUS scores must be modified by hand to use appropriate digitized instruments for the D2 SMUS module.

The FileReq module can be used to pop up a standard file requester for filename selection from your script. This file requester is also used by DEdit and all the D2 Utilities. A simple two-button Yes/No file requester is also available.

THE LIBRARIES

Here, a "library" is essentially a D2 script that anyone can create or modify. Libraries contain sets of often used routines, so you don't need to cut and paste or retype them each time you want to use them. They also insulate you from the technical side of some otherwise complex operation, since you don't need to know how the routine works, only how to call it. Five libraries are included with The Director Version 2: Checkerboard Wipe, Plane Wipe, Date & Time, MakeANIM, and Trig.

The two Wipe libraries handle some fairly complicated transitions in a simple fashion. The Date & Time library handles various conversions of the raw data returned by the new Date command. You don't need to use the Date command in your script; the library has routines to get the date in MM/DD/YY format, convert another date to MM/DD/YY format, or return the day of the week, both as a number 0-6 and the proper text string such as "Wednesday". The MakeANIM library, as mentioned earlier, has routines which use commands from the IFF Module to properly create, manage, and synchronize image buffers to generate various ANIM format files. The Trig library has integer-based sine and cosine functions which can be used to perform circular math operations.

To use the routines in a library in a script, you must use the new D2 INCLUDE command at the very beginning of your script. For example, to use the Trig library, the first line in your script might read:

```
INCLUDE "Director:library/trig.dlib"
```

Any routines in the Trig library (or more properly, the Trig script) could be called using the D2 commands DO or GOSUB, the name of the routine, and any parameters the routine might accept. The routine works as if you had entered or pasted it in your script somewhere. When the film is generated from the script, library routines are incorporated into the film as if they were part of the script—you do not need any library files to run the film.

AND WHAT ELSE?

The BLIT command works with FAST or CHIP RAM buffers. The CHIP RAM BLIT uses the Amiga's Hardware Blitter for this operation. The FAST RAM BLIT is a processor emulation so the speed of the operation depends on the speed of the processor. Obviously a FAST RAM BLIT is faster on a 68030 than a 68000, but a FAST RAM BLIT may be fast enough regardless of the processor in some cases.

Many D2 operations offer system-accurate timing regardless of what kind of machine you're running on—PAL or NTSC video, 68000 or 68030 processor. Audio or video effects can be synchronized with frame accuracy for animations or individual video images. The few commands which can't adjust by themselves usually offer some sort of tweaking or fine-tuning adjustment.

D2 supports variable colormaps in animations; that is, the color palette can change on every video frame or specific frames. The palette cross-fade produces very smooth color changes between images with two different palettes during transitions such as wipe or dissolve. You can fade the screen to any of 4,096 colors in the Amiga palette or the current palette, or fade selected portions of the palette to produce some startling animation effects. You can even set color cycle ranges independently of any cycle ranges stored in the IFF file—very useful when you don't want to reload and reset the ranges in a paint program.

D2 allows you to load an IFF image or ANIM animation while playing a music score or performing other D2 operations. You can play an animation from a hard drive; this also works from floppies but is less useful due to access time. The SMUS and Sound modules let you play large samples from FAST RAM or directly from a hard drive; this also works from floppies but you may have to do some tweaking. Sample size is no longer limited to available CHIP RAM.

D2 can act as an ARexx client or initiator, and ARexx is supported in a unique way. You do not even need ARexx to communicate in an ARexx fashion with most ARexx-supporting software. Some packages do require the ARexx library for proper operation, but since ARexx is supplied with the new 2.0 OS this isn't a serious problem. D2 uses its ARexx capability to run more than one film at a time or to chain one film off another film. You can run up to 10 films at one time.

Most D2 commands have a novice format where the command word alone can be used to produce the desired effect. Most also have one or more expert formats that you can gradually begin using for more advanced work. Some of the reserved variables mentioned earlier can be used to make commands more intuitive. Under Version 1, for example, some commands used a "1" or "0" to indicate the command mode, such as CYCLE 0 or FADE 1. D2 supports this, but now you can also use keywords such as ON, OFF, IN, or OUT, as in CYCLE OFF or FADE IN.

As for compatibility, only three commands, one logical operator, and the Toolkit's MIDI module are different for D2. A new MIDI module for D2 will be included with the Toolkit 2. This module is available now for a small fee to previous Toolkit owners, until such time as the new Toolkit is ready. The logical exclusive OR operation (the symbol "^") was erroneous and has been replaced with a bitwise AND, which performs the same operation in a different manner and is not expected to cause any compatibility problems. The three commands that work differently between the two Directors can be switched between Version 1 and Version 2 compatibility using the special D2 command SCONTROL. SCONTROL 7 selects Version 1 compatibility mode and SCONTROL 8 selects Version 2 compatibility mode. You don't need to go through all your old scripts to convert problem commands; just put SCONTROL 7 as the first line and run the script through D2 to generate a new .film file. The new proj2 (Projector 2) player will not play old .film files—you must generate new .film files with D2 or use the Version 1 Projector player on Version 1 .film files.

Other new or improved features and capabilities include: automatic overscan centering, even under 1.2/1.3, standard under 2.0; adjustment of screen centering if you don't like the auto-center; timer, keyboard, and mouse interrupts; enhanced mouse and keyboard input; support for the standard 8-position joystick plus the fire button in either Amiga 9-pin port; text or numeric line labels in scripts can be up to 16 characters; improved ease of handling of tables of numeric or alphabetic data with multiple, named, multidimensional arrays; larger .film files are possible; enhanced string handling, although it is different from what you may be used to with BASIC; file handling has been enhanced by the addition of some commands; and up to 10 files can be open simultaneously.

CONCLUSION

The manual is very good except for the incomplete index in the Appendix, which is partially offset by the table of contents in the Reference section and the overall layout. The new integrated editor is good but needs more work to become a truly useful programming editor. Compatibility is excellent—D2 runs equally well under 1.2/1.3 or 2.0, and the ability to switch at will between Version 1 and Version 2 compatibility is a rare feature in software today. The included utilities are excellent—their simple graphical interfaces make it easy to generate complex Director segments. The modules are very good except for the lack of Amiga-synthesized instrument handling in the SMUS module and the non-standard file requester (which the editor and Utilities also use) in the FileReq module. The libraries are excellent—the ability to create segments of often-used routines lets you expand The Director's capabilities without having to be a master programmer.

Overall, The Director Version 2 earns a rating of "very good"! •AC•

The Director Version 2
Price: $129.95
Inquiry #201
Right Answers, Inc.
Box 3699
Torrance, CA 90510
(213) 325-1311

Please write to Greg Epley, c/o Amazing Computing P.O. Box 869, Fall River, MA 02722-869

DIVERSIONS

Games Reviewed:

Stellar 7
Legend of Faerghail
PGA Tour Golf
Quest for Glory II
Overlord

Stellar 7

by Miguel Mulet

Once again, the Crown Jewel of the Milky Way has become the target of a hostile alien takeover. It seems that this time the Arcturan Empire and its evil Emperor Gir Draxon are planning a massive assault to drive all of humanity into slavery. Rather than risk a battle which would destroy the Earth, Terran High Command has decided to send one spacecraft—the XCV AGL-2, nicknamed The Raven—into Arcturan space. Your mission, should you choose to accept it, is to destroy all enemy spacecraft in Arcturan controlled space—before they destroy both you and Earth!

Stellar 7 is the latest arcade entry from Dynamix, the folks who brought you the Amiga classic ArticFox. The game is played as though you were sitting in the cockpit of the spacecraft, with an ample instrument panel below the main viewscreen. You have several accessories at your disposal including cannon, enhanced cannon, shields, a cloaking device, and even vertical thrust units. These weapons are recharged by either finding an enemy refueling station, or destroying (sequentially) certain enemy spacecraft.

A refueling station in the Rigel system in "Stellar 7".

Gameplay is fast and furious, and at first it seems as though you should simply shoot everything that moves. Unfortunately, this won't get you very far, as you will just end up destroying your fuel and weapon sources. So if you intend to get through all seven levels, you'll have to start thinking strategically as well.

The game is provided on two non-copy protected disks, with a well-written 29-page manual. The manual provides background information, as well as strategic tips for survival. The sound effects are excellent, with ample use of digitized sound effects as well as voices. The 3-D renderings of the enemy vehicles are well done, but not terribly different from those used in ArticFox.

The game has several other nice features. There is a preferences section, which allows you to speed gameplay by sacrificing graphics detail. The soundtrack as well as sound effects can be toggled on and off. Also, there is a briefing you can play that will allow you to identify the enemy vehicles without actually fighting them.

Stellar 7 is a good arcade game, featuring more action than strategy but

still an adequate amount of each. Although the premise is not new, the execution is well done. If you feel like saving the world just one more time, take off for the seven Arcturan solar systems of Stellar 7.

Legend of Faerghail

by Miguel Mulet

Well, no doubt about it—things are tough all over, particularly when trolls, orcs, and dragons rule the world. It is in these surroundings that you, having been raised a simple farmer, yearn for fame and fortune, wealth and glory. Thus, when a rogue named Sarian tells you that you can indeed have everything you've every wished for, you jump at the chance.

It seems that the normally placid elves in your hometown of Thyn have begun a war against the human inhabitants of the town. All you must do is venture through the perilous forests surrounding Thyn to the neighboring province of Clydane, where you can recruit allies who will assist in destroying the elves. That is, if you can keep from being killed yourself.

Legend of Faerghail allows you to explore the world around Thyn, with the help of up to six other hardy explorers. (These explorers can be imported from other games such as Phantasie I & III, as well as Bard's Tale I & II.) Faerghail is a typical role-playing game in which you lead the group of characters through their paces, trying to accomplish their mission.

As with most role-playing games, the character may be one of several races: Human, Dwarf, Elf, Halfling, or Mixed. Each character in Faerghail has certain attributes such as strength, intelligence, wisdom, dexterity, constitution, hit points, magic points, and experience points. Attributes change as the character is put through various adventures—becoming stronger as battles are won, or accumulating magical abilities through casting spells.

The town of Thyn in "Faerghail". Your location and available options are displayed, as well as information on your allies.

The group faces many hazards: dragons, spiders, cougars, and other wild beasts are only a few of the numerous foes the group will encounter. Exploration of dungeons and other towns can yield treasures which may allow the group to purchase better weapons, or may lead to the demise of the entire party. Mapping one's way through the forests and dungeons is highly recommended.

Graphics and sound effects are better than average, and serve to set the appropriate atmosphere for an adventure. The player can control the individual characters during a battle, or allow the computer to rapidly decide the victor. The game can be played via the mouse or the keyboard, and either interface works well.

If you are new to role-playing games, Legend of Faerghail is a great place to start. The instructions are well written, and the game interface is easy to learn. If you're an old hand at this sort of thing, Faerghail gives you another world worth exploring. The ability to import characters from other games is greatly welcomed (sort of like bringing along old friends). Overall, Faerghail is an adventure worth signing up for.

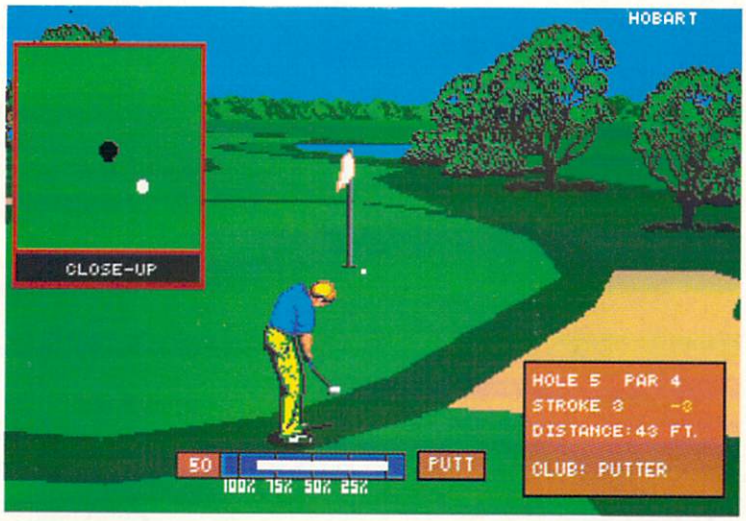
PGA Tour Golf

by Joe DiCara

PGA Tour Golf, from Electronic Arts, is a new challenger to the long list of Amiga golf games. Does this simulation have what it takes to separate itself from the rest of the field? I believe after the first hole, you'll have the answer. This game is very detailed and plays fast. Screen updates and scenery and perspective changes are quick as lightning.

PGA Tour's most unique feature, a camera view that follows the ball in flight, demonstrates the game's speed and brings new excitement to the genre. Most golf games view the action from behind the golfer. When shots are made, you simply watch as the ball fades out of sight. In PGA Tour, after the ball is hit and reaches mid-flight, the scene *instantly* switches to the landing area. From this new perspective, you'll see the ball slice into view, skip oddly as it hits the ground and, if you play like I do, probably come to rest with a plop in a bunker—the effect is truly amazing.

Another feature that sets PGA apart from the pack is the play of the computerized golfers. The guys (only male players are available) in your foursome play a very human and unpredictable game. One computer member of the group may go five holes



Lightning-quick scenery and perspective changes are par for the course in PGA Tour Golf.

and never miss the center of the fairway, but then suddenly find the rough. Another may two-putt every green, but then appear to lose his laser-guided putter. Once I watched as a computer player hit twelve shots into the same pond. After shanking the last one, he simply declared a "pickup" and disappeared gracefully from the scene. I wish I could do the same when I'm on the links.

Your game isn't immune to the pressure either. Perhaps this is the result of the subtle difference PGA has made in stroke control. As in other golf games, the power of the swing is determined by a series of mouse clicks that control a power bar. The difference in PGA is how it handles overswing. The closer to 100% your swing comes, the finer your precision on the final click must be. When you overextend the swing in an attempt to reach the hole, any error at zero is greatly exaggerated in the flight of the ball. In other words, you wouldn't believe the hook or slice you're going to get! This seems a small thing, but it sure can humble your game.

Putting action is enhanced by a separate 3-D green with a contoured grid. Turning the grid to study the topography reveals subtle breaks and curves. Special attention has also been given to the short irons. At certain times, tricky shots demand a new strategy. When the ball is sitting just on the fringe, you can choose to chip and roll, or hit a fringe putt. All wood and iron shots are affected by the ever-changing wind. A small wind indicator pops up on the screen to help you gauge the wind. Be sure to give the wind a moment or two to settle down before hitting, but don't wait too long because it may change again. Another little window, showing an overhead view of the hole, also pops up whenever a ball comes close to the pin.

As the name implies, this game allows tournament play. Compete against 60 PGA Tour golfers in four rounds of pressure-packed golf—that is if you can make the cuts! Throughout the match announcements of changes in the leaderboard, or notices of important shots are shown on screen. You'll even get to see replays of the most thrilling shots.

While PGA Tour presently lacks a course editor and additional course disks, it does provide the most realistic and intense simulation of golf I've yet played. It's packed with features and details that keep the game moving, and play challenging. Jack Nicklaus would find PGA Tour Golf quite demanding—it sure looks like there's a new game atop the leaderboard.

Quest for Glory II—Trial by Fire

by Miguel Mulet

Imagine a magic carpet ride that takes you to a land somewhere in the Middle East where magic rules and monsters roam the deserts. You are known as a hero in these parts, due to the success of your previous adventures in Quest for Glory I. (Don't be concerned if you haven't played the first game.) Although what you'd really like is some R & R, the people of the city of Shapeir have other plans for you. It seems that the Emir of Raseir (twin city to Shapeir) has disappeared under dubious circumstances. Rumors

In the Inn, at the start of your "Quest for Glory".

have it that the forces of evil are now in control of the city. Naturally, the people of Shapeir look to you—a *hero*—to solve the mystery and save Raseir. Thus, you embark on another Quest for Glory!

Quest for Glory II is a combination role-playing and adventure game. You assume the persona of a graduate of the Famous Adventurer's Correspondence School, a hero in your own right. This character can be imported from the first game, or composed from scratch. You have the choice of playing the game as a warrior, a wizard, or a thief. The solution to problems varies, depending on which character you choose. You could even play the game three separate times, choosing a different character each time.

The game starts at the entrance to the city of Shapeir. The city of Raseir is to the south. You venture through the streets of Shapeir, trying to equip yourself for the trials and tribulations you will face on your journey through the desert on the way to Raseir. You interact with other characters via the keyboard, although a mouse can be used to control some of your movements. Should you have to fight an opponent, the game changes to an arcade sequence, with thrusts and parries controlled from the keyboard as well. Your character may also use magic if he has the ability. With a little luck (and a lot of skill), you'll solve the mystery, beat the bad guys, and be a hero once again.

Spanning eight disks, the game sequence takes a while to complete. There are many locations to be explored, as well as characters with which to interact (both verbally and physically). Although a nice soundtrack plays in the background in almost all locations, the graphics leave a lot to be desired. Pictures are relatively grainy, and graphics scroll slowly. Making your way around Shapeir is not only a test of skill, but of patience as well. (Perhaps the game would run faster on an Amiga 3000—my test system was an Amiga 1000.) The parser also tests your patience as you must phrase commands/responses in a certain way in order for the computer to accept them.

Quest for Glory II has an interesting plot as well as fairly good sound support, but the graphics and parser are disappointing. Still, the puzzles are challenging, with many having several different solutions. Also, the game can be played as one of three different characters, providing greater variation.

Overlord

by Lawrence S. Lichtmann

Real-time strategy games are a hot item just now. The smash hit Populous seems to be largely responsible, although a few mavericks like the outstanding Carrier Command made the rounds even earlier. Now comes Virgin Mastertronic's Overlord (published as Supremacy in Europe).

Overlord is a space conquest game. Your objective is to take over a star cluster and thereby eliminate your computer opponent, a megalomaniac/alien who is also bent on conquest and guilty of the heinous crime of denying you omnipotence. A successful campaign requires you to terraform and industrialize the worlds of the cluster, conscript and equip armies, and raid and conquer your opponent's planets.

Unfortunately for you, it is not possible simply to concentrate on blood and thunder. You lusted for power,

Product Information

Stellar 7
Price: $34.95
Inquiry #233
Dynamix/Sierra On-Line
P.O. Box 485
Coarsegold, CA 93614
(209) 683-4468

Legend of Faerghail
Price: $39.95
Inquiry #234
Electronic Zoo
3431-A Benson Avenue
Baltimore, MD 21227
(301) 646-5031

PGA Golf Tour
Price: $49.95
Inquiry #236
Electronic Arts
1820 Gateway Drive
San Mateo, CA 94404
(415) 571-7171

Quest for Glory II: Trial by Fire
Price: $59.95
Inquiry #235
Sierra On-Line, Inc.
P.O. Box 485
Coarsegold, CA 93614
(209) 683-8989

Overlord
Price: $49.99
Inquiry #237
Virgin Mastertronic
18001 Cowan St., Ste. A & B
Irvine, CA 92714
(714) 833-8710

and the price you must pay is the responsibility of directing your economy as well as your military. Subjugation of the cluster dictates proper management of the raw materials of power: money, energy, and minerals. Every spaceship launched, every industrial complex set up will cost you in terms of each of these commodities. On top of that, you must make sure you have enough subjects to help provide the cannon fodder, food, and fuel to ship people and materiel from place to place according to the dictates of policy.

As a final complication, you are unable simply to overwhelm your enemy with sheer numbers. A maximum of 24 units of all kinds—industrial complexes, farms, cargo ships, energy satellites and military transports—and a maximum of 24 platoons of soldiers can be maintained. Hence, construction of your empire must proceed with an eye towards strategic and tactical factors, not simply size.

All of this administration must be performed under the relentless pressure of the clock. While you are scrambling to put your empire together, your enemy's well-oiled military and economic machine is growing by leaps and bounds. Overlord is not a game for the faint of heart.

Fortunately, the creators of Overlord have provided multiple scenarios representing a progression of levels of difficulty. In the simpler ones, the stellar cluster is smaller, one or more of the critical resources (money, energy, minerals) are omitted from the purchase prices of items, and one's opponent is less skilled. The adjustable difficulty of the game, plus the "quick start" walk-through of the game mechanics provided in the manual, make it possible to learn the game without being completely overwhelmed by its complexities.

Overlord is one of the most nicely produced Amiga games I have seen. The game kit consists of two disks, a quick reference card, and a manual. The manual is attractively laid out, complete, well organized, and—thankfully—indexed. The quick reference card has loading and starting instructions and summaries of the top-level game functions, in addition to color representations of the most important icons.

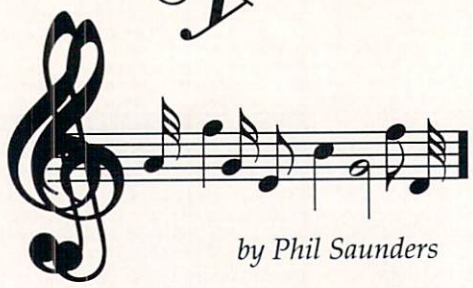
The game graphics are impressive, particularly considering that they are fairly incidental to the game. There is also just enough animation and sound to keep things lively. I particularly liked the flood of fire which sweeps over the view of the world as it is being terraformed. The game is fully "Amigaized," being played completely with the mouse and pointer, except for the optional exercise of giving your own names to planets, industrial units, or spaceships.

The main screen contains a rotating, quasi three-dimensional representation of the star cluster, plus a message screen and the icons to access the subsidiary screens. It is normally not necessary to return to the master screen except to check the map or to receive messages, as the other screens have icons allowing you to move to the screens most commonly needed next. For instance, the Cargo Bay screen used to fuel ships and load cargo has an icon that allows you to move directly to the Navigation screen used to launch ships and set destinations. The main screen also has a Pause icon, allowing you momentary protection from the tyrant clock. I find myself wishing, though, that a Pause button had been included on the other screens as well. As it stands, it is not possible to pause the game elsewhere than on the main screen in order to study a situation; moving to a subsidiary screen automatically returns the game to real time.

Overlord is easy to learn—thanks largely to its excellent documention—and very hard to master. I highly recommend it for those who find turn-based strategy games insipid compared to those played against the clock. I always come away from Overlord sessions feeling wrung out like a sponge.

•AC•

Medley



by Phil Saunders

IN THE LAST SEVERAL COLUMNS, we've covered various aspects of MIDI on the Amiga. But MIDI by itself can take you only so far. Sooner or later you will want to combine MIDI sequences with non-MIDI instruments. While companies work on bringing hard disk recording to the Amiga, the best way to combine MIDI and recorded instruments or vocals is to synchronize a tape recorder with your Amiga sequencer. This month's column will cover synchronizing audio and video tape with an Amiga sequencer. We'll also take a look at Dr. T's Phantom SMPTE interface, an Amiga SMPTE synchronizer and MIDI interface.

Synchronizing audio and video tape with an Amiga sequencer

Synchronization is a complex topic, so we'll approach it gradually and logically. The basic idea is that a hardware device called a synchronizer records a special audio signal on one channel of a tape. When the tape is played back, the audio signal, known as time code, is fed into the synchronizer, which uses the signal to synchronize the Amiga sequencer with the tape. This ensures that audio or video recorded on the tape plays in sync with MIDI instruments controlled by the Amiga sequencer. In most systems, rewinding or fast-forwarding the tape recorder will cause the sequencer to skip to the appropriate section of the song and then begin playing back.

The two main types of time code are Frequency Shift Keying (FSK) code and SMPTE time code. The chief difference is that FSK code is a *relative* code while SMPTE is *absolute*. In other words, the rate of FSK code varies with the tempo of the sequence, while SMPTE code is recorded at the same rate even if the tempo of the sequence changes. FSK synchronization code must be recorded while the sequence is playing. Each beat in the song is represented by a peak in the FSK time code. If the sequence speeds up, the peaks in the FSK code are recorded closer together; if the sequence slows down, the FSK peaks are further apart. When the tape is played back, the synchronizer detects each peak in the time code and sends out MIDI information that matches the tempo of the FSK code, replicating the tempo changes in the original sequence. Song Position Pointer (SPP) is a refinement of FSK code that records the position of the song in the time code. Normally, tapes recorded with FSK code must be played from the beginning so that the sequencer can sync properly. When the tape is started from the middle, SPP code will send a message that the sequencer should be playing a certain measure, allowing the sequencer to catch up and synchronize itself with the tape.

FSK systems tend to be less expensive than true SMPTE systems, though the difference in price has lessened recently. FSK works well for synchronizing multi-track audio tape, but is not suitable for synchronizing video tape. One problem is that each brand of FSK synchronizer uses a different—and usually incompatible—scheme of writing time code to tape. This means that code recorded with one FSK synchronizer is not compatible with other synchronizers. Also, since FSK follows the tempo of the original song, tempos cannot be changed once the FSK code has been recorded. Despite these disadvantages, FSK is an inexpensive way to synchronize audiotape and MIDI sequencers; if you're just working in a home studio, it may be all that you need.

SMPTE-based systems work on a different principle. Instead of the speed of the time code varying with the tempo, as in FSK systems, SMPTE time code is recorded at a constant rate. Each "frame" of SMPTE code is numbered, and the frame number is recorded on tape as part of the time code. This signal is recorded on one track of video or audio tape for the length of the song, a process know as "striping" the tape with SMPTE time code. When the tape is played back, the SMPTE converter reads the frame number from the tape and can tell exactly where it is in the sequence. While FSK with Song Position Pointer calculates the position in terms of beats and measures (i.e. measure 38, beat two), SMPTE references are in absolute time (hours, minutes, seconds, and frames). The absolute SMPTE times are converted to MIDI tempo information by either a SMPTE to MIDI converter or the computer sequencer.

There are two different kinds of SMPTE converters commonly used on personal computers. The first converts each SMPTE frame into Midi Time Code (MTC), the MIDI equivalent of SMPTE frame numbers. MTC is a standard that is recognized by sequencers and SMPTE converters on many different computers. One disadvantage is that MTC information takes up about 8 percent of the bandwidth available on a MIDI cable. This means that information on very active MIDI sequences can sometimes be delayed by higher priority MIDI Time Code signals, causing inaccurate timing. The second kind of converter reads the SMPTE time code and transfers the information directly to the computer. Sometimes the transfer is done by a separate cable, eliminating the load on the MIDI bandwidth and improving accuracy. Some of these direct methods read all 80 bits of the SMPTE time code, providing "bit-accurate" synchronization not possible with Midi Time Code. The disadvantage is that these proprietary synchronizers are usually not supported by other manufacturer's sequencers and can usually be used on only one kind of computer. Despite this problem, the SMPTE code recorded on the tape is in a standard format and can be used on other systems and with other synchronizers.

SMPTE time code does not contain any information about the tempo of the sequence. This information is either entered into the synchronizer as a "tempo map" or is calculated by the sequencer software. This means that the tempo of the MIDI sequence can be altered after the time code has been recorded. Of course, any audio tracks that were recorded in sync with the old MIDI sequence tempo will not be in sync with the new tempo. The advantages of SMPTE code are its ability to adjust the tempo after the time code has been recorded and the fact that it is the professional standard for synchronizing devices. You should be able to take a tape that is striped with SMPTE into any studio, copy it onto another tape recorder (though it may be necessary to "regenerate" the time code), and then play your MIDI sequence in sync with the second recorder. SMPTE also has a huge advantage if you intend to synchronize your music to video or film. SMPTE's chief disadvantages are its cost, though inexpensive SMPTE synchronizers are now available, and the fact that some sequencers and inexpensive software programs don't support it.

Different film and television systems use different frame rates

I've hinted in the previous paragraphs about using SMPTE to synchronize music with film and videotape. The fact is that SMPTE frame rates were chosen to coincide with the frame rates commonly used in various film and television systems, so that there is one frame of SMPTE time code for each frame of picture. Unfortunately, as you're about to learn, different film and television systems use different frame rates. Film runs at 24 frames per second (FPS), so there is a 24 FPS SMPTE time code. European TV uses 25 frames per second, so there is a 25 FPS SMPTE time code. American television originally used a 30 FPS rate, but this was slowed down to 29.97 FPS to accommodate the color signal. While time code runs at 29.97 FPS, calculations assume it is actually running at 30 FPS. As a result, the time in the frame numbers of 29.97 code runs slightly faster than real time. This timing discrepancy is corrected by something called drop-frame time code. This drops two frames a minute so that time measured by 29.97 FPS drop frame code matches the time measured by a real clock. The result is two variants of 29.97 FPS time code: the regular code and 29.97 FPS drop frame. Either will work for video applications. The advantage of 29.97 FPS code is that you don't have to remember which frames have been dropped, while with 29.97 FPS drop frame, the time and frame numbers will match real time. In both cases there is one frame of time code for each frame of video.

There is also a 30 FPS SMPTE time code in which no frames are dropped. The frame numbers correspond exactly with real time, making 30 FPS a good frame rate for audio applications which are not synced to video. In this case, the SMPTE time tells you the length of

the song! There is also something called 30 FPS drop frame, which is a misnomer. 30 FPS drop frame is actually 29.97 FPS drop frame code intended for video applications. If your SMPTE setup doesn't offer 29.97 FPS drop frame, try its 30 FPS drop frame instead.

If all this discussion of frame rates seems complicated, here are two simple rules for American users. If you want to sync to American videotape, use 29.97 drop frame (sometimes mislabeled as 30 FPS drop frame). If you don't want to sync to video, you should use 30 FPS non-drop frame code. The discussion of frame rates above is slightly simplified. If you want the full details, consult one of the references listed at the end of this column.

Why bother with all these frame rates? Well, the idea is to synchronize the music you write with the action taking place on screen. Consider sound effects, for example. These are usually added after filming has been completed. If the door opens on the screen, then the rusty hinge sound effect needs to sound at the same time. If you know that the door starts opening at hour 1, minute 3, second 16, frame 5 and finishes opening at hour 1, minute 3, second 18, frame 9, you can add a sound effect that lasts for two seconds and 4 frames. Then if you use MIDI to trigger the sound effect at the SMPTE frame starting at hour 1, minute 3, second 16, frame 5, the sound will be precisely synchronized with the images on the screen. The same technique works equally well with music: you can calculate the time of various scenes and decide which frames need to be emphasized by high points in the music. You can then compose music that has its peaks on the key SMPTE frames. If you're scoring a movie, you will usually be given a videotape that has SMPTE time code recorded on the audio track as well as a visual representation of the time code frame numbers in a little box on the screen.

This should give you an introduction to the various issues involved in synchronizing your MIDI sequencer with audio and video tape. Next month we'll consider some of the specific techniques involved in synchronizing. If you are interested in more details about synchronization, I highly recommend Jeffrey Rona's book *Synchronization from Reel to Reel*, which covers SMPTE, FSK, and film scoring in more detail. "Decoding SMPTE," an article by Paul Lehrman published in the April 1991 *Electronic Musician* , is also a good source for information on the different SMPTE frame rates. •AC•

Please write to Phil Saunders c/o Amazing Computing, P.O. Box 869, Fall River, MA 02722-0869.

(continued from page 38)

support for a greater number of graphic formats, Lotus, Excel, Dbase import capability, compatibility with the IBM version of Superbase 4.0, 50% speed increase, Soundex (sounds like) search, 40 function keys defined as Macros, and AREXX support. The fee for the upgrade is $149 for users who own version 3, and $199 for users with prior versions. The program retails for $695. *Precision Software 8404 Sterling St., Suite A, Irving, TX 75063*

product: EXP-800 RAM expansion board
re: problem working with high resolution screens/Amiga 500's with "fatter Agnus"
source: reader response

Mark Davidson of Boonton, NJ, contributed a report on the excellent service he received from Progressive Peripherals. He writes that he had purchased an EXP-8000 RAM expansion board only to find that it would not work right with high resolution screens with more than four colors. He was at first quite disappointed, since he had wanted to use the board to work with high resolution video graphics. He went on to say that he had put the board in service on his machine at work since he seldom worked with high resolution graphics on that system. Then one day he got an envelope from Progressive Peripherals that contained a new PAL chip for his EXP-8000. He had the board working in high resolution inside of ten minutes, and he was appreciative that the company had sent out the new chip free of charge.

Mark included a copy of the letter that accompanied the chip. The problem appears to have occurred only on Amiga 500's equipped with "fatter Agnus" chips. Registered users who did not wish to make the upgrade installation themselves were invited to send their board back to Progressive for free installation. Here again is another example of why it pays to spend a few minutes and send in that registration card whenever you purchase a new hardware or software accessory for your Amiga.

product: A3000
re: Commodore's "Power Up" A3000 upgrade program
source: Commodore

By now, you may have already heard about Commodore's A3000 upgrade program. The new program, called "Power Up," allows any Commodore Computer owner to upgrade to an A3000 by simply writing the serial number of the CPU being upgraded on the cover of the original owner's manual, and then bringing the cover to your local Amiga dealer. The upgrade is essentially a discount of between $1150 and $1500 toward the purchase of one of three A3000 systems that qualify. Unlike previous Commodore A1000 trade-in upgrades, this program allows you to keep your older CPU. The program ends June 30, 1991. •AC•

Correction: *In last month's Bug Bytes, the file name for the revised version of the PageStream 2.1 PostScript.driver on People Link's SOFT-LOGIK club library section 4 was incorrectly listed. The correct file name is PS2.1.12.LZH. The BBS number and sales telephone number for Soft-Logik were also incorrect. The correct BBS number is (314) 894-0057. The correct sales telephone number is (800) 829-8608. We apologize for the mix up.—Ed.*

Please write to John Steiner c/o Amazing Computing, P.O. Box 869, Fall River, MA 02722 ...or leave EMail to Publisher on People Link or 73075,1735 on CompuServe.

PD Serendipity

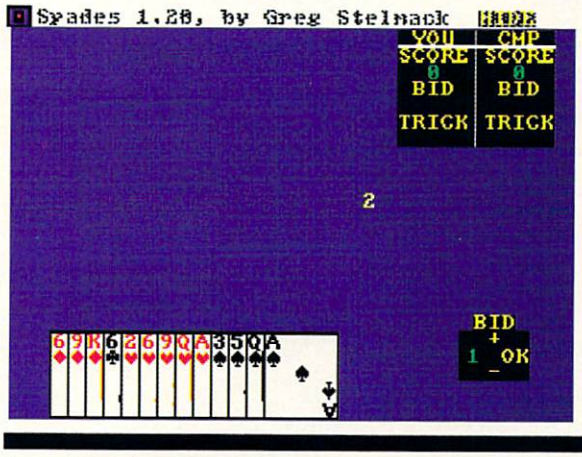
Insight into the World of Public Domain Software for the Amiga

Spades V1.20

The popular card game Spades has made its way to the Amiga. This version has a HIDE gadget, which when clicked on will send Spades to the background so you can work on other things and still keep Spades open.

Spades is played with two teams each with two players. The computer handles one team plus your partner. This includes all decisions for these players including their bid and which cards are to be played. The computer will not let a player make an illegal lay, including yourself.

When started, Spades will randomly pick a dealer (whoever receives the Ace of Spades) and play will follow to the left of him. The object of the game is to be the first team to get 500 points. Points are earned by bidding on how many tricks one would win in a round. You can gain or lose points depending on whether or not you succeed in making the number of tricks. When the cards are dealt, the player to the left of the dealer will start the bid. The number that is bid depends on the hand dealt to you. The more cards of one suit you have or the more high cards you have, the higher the bid can be. The →



The card game Spade—Amiga style.

by Aimée B. Abren

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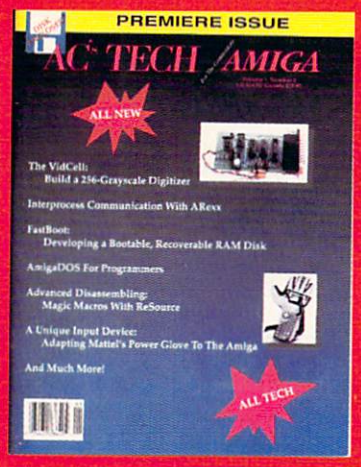

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Ace of a suit is the highest, and the two is the lowest. The amount you bid tells how many tricks you think you will make in a round. The computer can suggest a bid for you if you are unsure. The computer can also suggest a card to discard during play.

Once all bids have been announced, the player with the highest bid starts the first trick. This player plays the first card, then everyone must follow suit if they have it. The computer will not let you throw the wrong suit if you have the correct one in hand. The exception is a Spade. The Spade suit is trump. You can play a Spade at any point in the game, and it automatically wins the trick. If two spades are played in one trick, then the highest spade wins.

Scores are determined by whether you make the number of tricks when you bid. You can gain extra points if your team wins more tricks than needed, and you can lose points if you don't win enough tricks.

Spades can be run from the CLI or Workbench and can be found on Fred Fish Disk #485. Author: Greg Stelmack

Following are five small but useful programs that can be found on Fred Fish Disk #483. The author of these programs is Preben Nielsen.

TD V1.0

TD monitors and displays the current track for each floppy disk. This program is similar to Olaf Barthel's TrackDisplay. One main difference is TD is considerably smaller in size.

TD can be run from the Workbench or CLI.

InputLock V1.0

Now there is a program to guard against those curious kids or pesky pets. InputLock allows you to "lock" the keyboard and mouse while you're away from the computer. This can prevent the loss of long hours of work. After InputLock has been executed, activating it is just a matter of pushing a few buttons (Left Alt button, Ctrl & L). When you return, to deactivate it, simply hit the key combination again. To terminate InputLock all together, run the program again.

InputLock can be run from the CLI or Workbench.

PicSaver V1.0

PicSaver is a great utility program that can take "snapshots" of screens, windows, or parts of screens, and save them as an IFF.ILBM. Just run PicSaver once from the CLI or Workbench and that's it. When you want a snapshot, hit the right key combination for the type of picture you want (window, screen, or part of screen).

After hitting the key combination, you are prompted to give your picture a name. If you chose part of the screen, you are then given a crosshair which you can now use to select the area you wish to capture. As noted in the documentation, PicSaver runs into some problems when you choose a picture that is fewer than 16 pixels wide.

PWKeys V1.0

PWKeys makes it possible for you to manipulate windows on the Workbench without using the mouse. By using one of the 17 key combinations, you can move the active window to the left, right, center of the screen, or in front or behind, etc.

When PWKeys is executed, it automatically activates the seventeen key combinations. You can change the default by using the program SetPWKeys. PWKeys, as noted in the documentation, does have trouble if the active window contains an active gadget. To end PWKeys, run the program again.

PWKeys can be run from the CLI or Workbench.

ButExchange V1.0

ButExchange is a little program that when executed, reverses the functions of the two mouse buttons. This is to help all those left-handed Amiga users. You now double click with the right button, and pause scrolling text with the left. This program is fun to try even if you are not left-handed.

BootPic V1.0

If you are tired of seeing that Workbench hand after a reset, BootPic has an answer for you. BootPic allows you to load an IFF.ILBM (in compressed form) picture instead of the hand. After BootPic is executed, your image appears instead of the Workbench hand the next time you reset.

By following the format in the documentation, you can have BootPic load an image and reset the computer (using the -r parameter) automatically, or load an image, and next time you reset the computer, the new image will appear. If, for some reason, you miss the Workbench hand while viewing your image, hit the left mouse button, and it will reappear. BootPic also allows you to change the background color of your image. The default is the color of the Workbench screen. Images can be removed from memory with the -e parameter.

Some problems occur when resetting to play a game after you have loaded an image.

BootPic can be run from the CLI or Workbench. It is shareware and can be found on Fred Fish Disk #484. Author: Andreas Ackermann.

Updates from the latest Fred Fish disks (FFD #481 to #490) follow. The collection is now up to disk #490.

MCP V13.76 can be found on Fred Fish Disk #481 and is an update to the version on Fred Fish Disk #338.
Author: Jorg Sixt

WaveMaker V1.2 can be found on Fred Fish Disk #481 and is an update to V1.1 on Fred Fish Disk #318.
Author: Thomas Meyer

MED V3.10 can be found on Fred Fish Disk #483 and is an update to V3.0 on Fred Fish Disk #476.
Author: Teijo Kinnunen

PSX V1.1 can be found on Fred Fish Disk #418 and is an update to the version on Fred Fish Disk #483.
Author: Steve Tibbett

EXAsm V1.5 can be found on Fred Fish Disk #484 and is an update to V1.31 on Fred Fish Disk #431.
Author: Joe Siebenmann

TextPlus V3.0 can be found on Fred Fish Disk #484 and is an update to V2.2E on Fred Fish Disk #465. This program is shareware. Author: Martin Steppler

Drawmap V2.25d can be found on Fred Fish Disk #485 and is an update to V2.0 on Fred Fish Disk #315.
Authors: Bryan Brown & Ulrich Denker.

NiftyTerm V1.2 can be found on Fred Fish Disk #485 and is an update to V1.0 on Fred Fish Disk #403. Author: Chirstopher Newman and Todd Williamson

Spades V1.2 can be found on Fred Fish Disk #485 and is an update to V1.1 on Fred Fish Disk #392.
Author: Greg Stelmack

AssignX V1.2 can be found on Fred Fish Disk #487 and is an update to V1.0 on Fred Fish Disk #475.
Author: Steve Tibbett

View80 V2.0 can be found on Fred Fish Disk #488 and is an update to V1.1 on Fred Fish Disk #365.
Author: Federico Giannici

SKsh V1.7 can be found on Fred Fish Disk #489 and is an update to V1.6 on Fred Fish Disk #381.
Author: Steve Koren •AC•

Please write to Aimée Abren, c/o Amazing Computing, P.O. Box 869, Fall River, MA 02722-0869

AC Special

Summer Consumer Electronics Show '91

This Summer's Consumer Electronic Show (June 1 through June 4 in Chicago) was once again a major attraction for everything from car stereos to robotic watchdogs. It was also the forum for Commodore to make a few amazing announcements. On the Amiga front, Jim Dionne stated during a press conference that there are now three million Amigas worldwide. And Commodore displayed CDTV's latest accomplishments.

A year after Commodore quietly demonstrated **CDTV**, and its potential, to select dealers and members of the press, Commodore again used this very exciting arena to heavily demonstrate the success and advances they have achieved with CDTV. Taking one of the largest booths they have ever had at CES, Commodore displayed the work of a wide assortment of CDTV and Amiga developers.

Commodore's aggressive stance and commitment to CDTV and the Amiga was not a surprise. Philips Consumer Electronics and Magnavox were busy demonstrating **CD-I**, CDTV's nearest competitor, to small groups in a private room on the lower level of the McCormick Center East. While they still have not started shipping the product, they were able to capture national attention with their announcement that Nintendo has signed a license to develop and market video games on Compact Disc. Although the discs will be in the CD ROM-XA format for use on a low-cost CD ROM-XA Compact Disc player, they will also be compatible with CD-I players as well.

In a statement released by Philips, Mr. Thierry Meyer, Chairman and CEO of Philips Consumer Electronics Division, said, "This is an important license agreement for Philips. It is again a further step in achieving worldwide standards for CD-based products."

However, Commodore USA's President and General Manager, Jim Dionne approached the questions of standards from CBM's perspective. "Philips proclaimed to have a standard. Well, it is interesting that they have a standard for a product that has never been sold. The fact is that CDTV supports the ISO 9660 CD-ROM standard for files. In fact, I think if anything is going to become a standard, it will be CDTV."

Irving Gould, chairman and CEO of Commodore International Limited, summed up Commodore's role. "As we continue to bring CDTV to market worldwide and the multimedia market matures into popular acceptance, the competitive challenges will become increasingly more difficult. We recognize that being the first is not necessarily an assurance of leadership. Leadership requires daily commitment to innovation, quality, and market support. We have made the commitment to CDTV, not only here in the United States but internationally as well."

> *"I think if anything is going to become a standard, it will be CDTV."*
> Jim Dionne, President
> Commodore Business Machines, Inc. U.S.A.

CDXL, CDTV-PIP, & Kodak

This commitment to innovation was demonstrated in the Commodore booth with the introduction of **CDXL**, **CDTV-PIP**, and CDTV's compatibility with Kodak's new **Photo CD** system.

CDXL will allow motion video to be incorporated in CDTV titles planned for Fall 1991. It will increase the capability of the CDTV player by bringing enhanced motion video without requiring a hardware upgrade. Capable of generating 1/3-screen images at about 12 frames per second resolution, CDXL enables developers to immediately create a whole new generation of titles incorporating partial-screen motion video and sound without waiting

for the establishment of the Motion Picture Expert Group. Commodore has not abandoned hope for the long-awaited MPEG standard; however, they noted that they still plan for CDTV compatibility once that standard has been finalized.

CDTV-PIP, on the other hand, is basically a 1/3-screen window, which allows NTSC video to be displayed simultaneously with a running CDTV application. The video can come from "live" sources, such as a camcorder, or stored media, such as a VCR or laserdisc player. One of the best things about CDTV-PIP is that it does not require any upgrade. It is incorporated into a

plug-in video card (which replaces the current video card), and is accessed through the CDTV remote control genlock button.

Both CDTV-PIP and CDXL are important evolutionary developments in Commodore's effort to make CDTV the premier multimedia format.

Commodore International also announced that they are collaborating with Kodak to make the CDTV Interactive Multimedia player compatible with Kodak's new Photo CD system.

The Photo CD system converts conventional photographs into compact discs. Planned for introduction in June of 1992, Photo CDs can store up to 100 35mm photographic images on writeable CD-ROM discs. Consumers will be able to "play" their Photo CD discs on CDTV and view their high-resolution photographs on standard television sets.

Commodore's David Rosen, Director of International Marketing, stated that "CDTV Interactive Multimedia is leading consumers into the world of multimedia, and compatibility with Photo CD will be a vital component of that movement. Photo CD will be an important feature which will help drive consumer sales of multimedia and the CDTV player."

More CDTV Video Tools

Context Systems, Inc. has scheduled an October 1991 release for **The Family Circus Video Workshop.** The characters from *Family Circus* can be used in your own home videos. Using a CDTV genlock, comic slides stored on the CDTV disc can be superimposed over video. The slides can also be used to introduce sections of your home video. Although it will be released in English, other versions in German, Italian, Spanish, French, and Japanese will follow. Retail will be $79.95.

The Vivid Group were also on hand demonstrating their highly acclaimed **Mandala Virtual Reality (VR) System** on CDTV. Mandala allows you to interact with a computer program by being part of it. Through a video camera, your shadow becomes an active input device for the computer. Mandala has been seen on television from MTV to Nickelodeon's Total Panic Show. It has also been a hit at conferences and at demonstrations. Now the technology will be available through CDTV, which should make new installations even easier at $495 for the software package.

Special Awards

Commodore's CDTV player and two CDTV titles, Applied Optical Media's **World Vista Atlas** and CDTV Publishing's **Music Maker**, were named among the most innovative consumer electronics products of 1991 by the Electronics Industries Association (EIA). EIA placed the CDTV player and titles on display in the "Innovations '91 Design & Engineering Exhibition" at CES.

CDTV Titles Abound

CDTV developers brought forth a combination of new and improved

Trivial Pursuit for CDTV by Domark Ltd. includes a Master of Ceremonies with strong convictions.

software to wow booth visitors. One of the solid exhibitors was Guy Wright from Wright Enterprises demonstrating his new CDTV comics, **Dinosaurs For Hire**. Also in attendance was Tiger Media and **The Case of The Cautious Condor**, where you match wits with a group of suspected murderers on a very short airplane trip.

One interesting favorite of Amiga owners has been **SimCity**. Now SimCity will be available on CDTV and it will include the graphic sets for Wild West, Medieval Times, Actual, and Future. With twelve music tracks that incorporate 25 minutes of music on the disc and special features such as a new Zoom feature to reveal details unattainable elsewhere. Maxis (in Europe, released by Infogrames) has taken advantage of the increased features of CDTV.

Commodore's CDTV-PIP was just one surprise for CDTV.

Wayne Gretzky Hockey CDTV™ is promised for a fall release from Bethesda Softworks at $59.95, while Context Systems has announced the July availability of **Ultimate Basketball** at $49.95. Ultimate Basketball is the first of a line of an assortment of software titles from Context Systems, Inc. Other titles include **Indoor Sports, Horse Racing**, and **Our House**.

The Guinness CDTV Disc of Records (1991 Edition), includes 6,000 Guinness Records of fascinating feats and achievements. It will provide audio-visual tours, animation, sounds, and pictures to deliver an information and entertainment experience. Records can be accessed by topic or by superlative (e.g., longest, tallest, fastest). The disc includes 300-400 photographic (HAM) images, 200 high-resolution graphics, 20-30 animated interactive graphics, 20-30 audio files and audio special effects, six audio-visual essays, and 80 tables of data. The program,

Context Systems, Inc. introduced The Family Circus Video Workshop.

Commodore held continuous demonstrations throughout the show.

developed by New Media Productions Ltd., is scheduled for release this month, and will carry a suggested retail price of $49.95.

Domark Ltd. announced that they will release a version of **Trivial Pursuit** for CDTV in September. Full-color digitized pictures, superb animated graphics, stereo music, and special sound effects accompany 2,000 of the most trivial and irrelevant questions. Questions are asked by animated representations of well-known figures such as Napoleon and Christopher Columbus. Sound and music questions include classical, pop, jazz, and even chants. The animated Master of Ceremonies and his special guests make sure the fun never stops. The game will retail between $60.00-$70.00. French, German, Italian, and Spanish versions are slated for release by the end of 1991.

The Amiga favorite, **Lemmings**, an innovative game which features 120 levels of never-before-experienced rodent activity, will soon be available on CDTV courtesy of Psygnosis Ltd. Nolan K. Bushnell general manager of the Consumer Interactive Products division of Commodore International Limited, demonstrated this game for the press, and gave it his personal praise, "Lemmings to me right now is the best game currently available."

Another title announced for CDTV was Accolade's **Jack Nicklaus Golf—CDTV**. Scheduled for release during the third quarter of this year, this golf simulation puts players on the famous Muirfield Village Golf Club, site of the recent Memorial Tournament. The 18-hole course has been painstakingly recreated using over 8,000 digitized images. In addition to Jack Nicklaus, players can choose from four other golf partners, including one female golfer. According to Chris Bankston, producer of the title, the photographs of the course have been rendered in 4096 colors and overlayed with animations of the golfers. Jack Nicklaus Golf—CDTV will retail for $59.95.

Philips' CD-I player was demonstrated in a lower level exhibition area. However, earliest availability for the player remains Fall '91.

And What of CD-I?

Philips Consumer Electronics and Magnavox have a great deal riding on their **CDI910** which has been in preparation for years. The machine they were showing looks very similar to Commodore's own CDTV. Some of the differences include the tray that handles Compact Discs and the remote control.

With CDTV, the user must first place the Compact Disc in a carrier device and then insert it into the CDTV player. Philips has used a system exactly like the one found on audio Compact Disc players. The disc is placed in a drawer and the drawer then recedes into the unit. While Philips' procedure is more familiar to the average consumer, CBM executives have stated that their system provides more reliability.

Philips' remote control is a combination "Thumbstick" and wireless remote. The Magnavox Thumbstick is very easy to use; however, the unit has only eight buttons aside from the Thumbstick control. While this makes the unit easy to use with only one hand, it is difficult to understand how well users will be able to access channels on audio discs or quickly input numbers etc.

The time it has taken Philips to get their CD-I product to market and the damage this has caused them was underscored by a developer during Commodore's press conference. Dick Fletcher of New Media, publishers of *The Guinness CDTV Disc of Records*, saluted Commodore and the CDTV application by stating, "In 1986 we were the first company in the world to sign a commercial contract to develop a CD-I disk. Time was of the essence of the contract. We had to have it finished by July 31, 1987. Ready for the launch of CD-I in 1987. I am still waiting for money from that contract."

"On January 2, 1991, I signed a contract with Commodore to develop *The Guinness CDTV Disk of Records*. We shall be delivering that as a finished product by June 30 of this year. And we expect to be earning substantial money for that by July 1 of this year."

(continued on page 95)

FANCY NUMBERS

by Lynwood Cowan

The Amiga is the first personal computer to come with speech capability as a standard feature. By accessing the power of the Amiga's narrator device (a very useful but often neglected component), programmers can transform their programs to produce human-like speech. Educational, business, and game programs all can benefit.

The programming example featured here, "FormNumber", converts a sequence of numerical digits into a phoneme-encoded string to be spoken via the narrator device. To address a larger audience, I will present this program in both C and Benchmark Modula-2.

Narrator Device

Before we begin examining our program, let's discuss the Amiga's speech system. The speech system is composed of two subsystems: the narrator device and the translator library. The translator library can be used to translate English words/sentences into phoneme-encoded strings. Once the phoneme-encoded strings have been formed, they are passed to the narrator device, which then with the help of the audio device produces human-like speech.

The Amiga translator library normally translates numerical strings in a non-traditional way. For example, the string "1234" would be translated by the translator library into a string to pronounce "one two three four." Traditionally, this string should be spoken as "one thousand two hundred and thirty four." The "Formnumber" program avoids use of the translator library and produces more traditional-sounding numerical strings using its own algorithm. An added benefit of skipping the translator library is that the "FormNumber" program executes faster since, by directly passing phonetic strings to the narrator device, we save the overhead of using the translator library. As you examine the data areas of the "FormNumber" program, you will notice that the phoneme-encoded strings are predefined. We are able to do this since only a subset of the real numbers can be spoken by this program. This program will produce human-like speech for real numbers between zero and octillion (approximately 30 numerical digits), making this program useful for all but extreme cases.

The narrator is a device and we communicate with it by passing messages to and from it. Messages used on the Amiga have a predetermined format, and in this instance we must use the narrator_rb message to communicate with the narrator device. In C the structure of the narrator message is:

```
struct narrator_rb {
  struct IOStdReq message; /* Standard IORB */
  UWORD  rate;  /* Speaking rate (words/minute) */
  UWORD  pitch; /* Baseline pitch in Hertz */
  UWORD  mode;  /* Pitch mode              */
  UWORD  sex;   /* Sex of voice */
  UBYTE  *ch_masks;          /* Pointer to audio alloc maps */
  UWORD  nm_masks;           /* Number of audio alloc maps */
  UWORD  volume;             /* Volume. 0 (off) thru 64 */
  UWORD  sampfreq;           /* Audio sampling freq  */
```

```
    UBYTE  mouths;      /* If non-zero, generate mouths */
    UBYTE  chanmask;          /* Which ch mask used (internal)*/
    UBYTE  numchan;           /* Num ch masks used (internal) */
    UBYTE  pad;               /* For alignment */
};
```

And the same message structure in Modula-2 with comments is:

```
narrator_rb = RECORD
              message      : IOStdReq;  (* standard IORB *)
              rate                      : CARDINAL;  (* speaking rate *)
              pitch        : CARDINAL;  (* baseline pitch in Hertz *)
              mode         : CARDINAL;  (* pitch mode *)
              sex          : CARDINAL;  (* sex of voice *)
              chmasks      : CARDINAL;
              nmmasks      : CARDINAL;
              volume       : CARDINAL;  (* volume level 0 thru 64 *)
              sampfreq  : CARDINAL;
              mouths       : BYTE;
              chanmasks : BYTE;
              numchan      : BYTE;
              pad                       : BYTE;
  END;
```

Each of the different fields of the narrator_rb message have a special purpose. The fields we are most interested in are the rate, volume, mode, sex, pitch, and message fields. The rate field sets the speed of uttered speech (words per minute). The volume field sets the volume level. The mode field controls the intonation and stress of the artificial speech. The sex field causes the narrator device to imitate male or female speech. The pitch field sets the baseline frequency of the narrator device. Finally, the message field contains a standard I/O (Input/Output) request block. In C the structure of the standard IOStdReq block (message) is:

```
struct IOStdReq {
    struct  Message io_Message;
    struct  Device  *io_Device;   /* device node pointer  */
    struct  Unit    *io_Unit;              /* unit (driver private)*/
    UWORD   io_Command;                    /* device command */
    UBYTE   io_Flags;
    BYTE    io_Error;         /* error or warning num */
    ULONG   io_Actual;       /* actual # of bytes transferred */
    ULONG   io_Length;        /* requested # bytes transferred*/
    APTR    io_Data;         /* points to data area */
    ULONG   io_Offset;        /* offset for block structured devices */
};
```

And the same message structure in Modula-2 with comments is:

```
IOStdReq = RECORD
   ioMessage   : Message;
   ioDevice    : DevicePtr;    (* device node pointer *)
   ioUnit                 : UnitPtr;      (* unit (driver private *)
   ioCommand   : CARDINAL;     (* device command *)
   ioFlags     : IOFlagsSet;
   ioError     : BYTE;                    (* error or warning num *)
   ioActual    : LONGCARD;  (* actual # of bytes transferred *)
   ioLength    : LONGCARD;  (* requested # bytes to transfer *)
   ioData                 : ADDRESS;    (* points to data area *)
   ioOffset    : LONGCARD;  (* offset for block structured devices *)
END;
```

As you can see, Amiga messages can become quite complicated—especially when you have message structures within other message (block) structures.

When you examine the C version of the "FormNumber" programing example, you will notice that a variable called "writeNarrator" points to a message that has the narrator_rb format. For fun, let's decipher a few lines of the C code containing the narrator_rb message structure:

Example 1:

```
writeNarrator->message.io_Data = (APTR)output_str;
```

This line of code causes the io_Data field of the message field to point to the output_str. The output_str is the string that will be spoken by the narrator device once it receives the writeNarrator message.

Example 2:

```
writeNarrator->message.io_Length = strlen(output_str);
```

This line of code first computes the length of output_str and assigns it to the io_Length field of the message field.

Example 3:

```
writeNarrator->volume = DEFVOL;
```

This line of code assigns the default volume (64) to volume field of the writeNarrator field.

As you may have noticed, once you understand the basic components of the Amiga message structure(s), you can easily manipulate the narrator device to produce the speech you want. Let's go ahead and step through the "FormNumber" program and follow its logical flow to see how the program works.

MessagePort

To communicate with the narrator device, first of all you need a port. I try to think of a port as a doorway to the outside world, in this case other running programs and devices. Each port has an address from which messages can be sent and received. A more technical definition is that a port is a link between communicating processes. In our case we need a message port to communicate with the narrator device. Notice in the following C code:

```
writeport = CreatePort(0,0);

writeNarrator = (struct narrator_rb *) CreateExtIO(writeport,
                    sizeof(struct narrator_rb));
```

and Modula-2 code:

```
writeport := CreatePort(NIL,0);

writeNarrator := CreateExtIO(writeport^,TSIZE(narratorrb));
```

we create a private port named "writeport" with zero priority. We then create an I/O request block named "writeNarrator" large enough to contain the narrator_rb message structure and assign "writeport" as its reply port. The reply port is the address of the entity sending the message. Using the analogy of the postal service, we'll say that a request block (an envelope) is being sent; the reply port "writeport" is the return address on the request block (envelope); and the request block contains a message (letter) the type and size of narrator_rb.

Next, in the program below, we initialize our request block "writeNarrator" so we can properly communicate with the narrator device. An important step to notice here is that we are setting the writeNarrator-> message.io_Command field to CMD_WRITE to indicate that we will be writing to the narrator device, not reading it. The next major step is to open the narrator device.

OpenDevice

Before we can use the narrator device, we first must open the device. The narrator device is disk-resident and the narrator device must be present in the directory currently assigned by AmigaDos to the DEVS: directory. To open the narrator device, we use the OpenDevice() function call. In C it's of the form:

```
error = OpenDevice("narrator.device",0,writeNarrator,0);
```

and in Modula-2 it is:

```
error := OpenDevice (ADR ("narrator.device"), 0D,
                                writeNarrator, 0D);
```

When using the OpenDevice() function to open the narrator device we specify the name of the device being opened and also give the name of the I/O request block with which we will be communicating. If the narrator device is opened successfully, the OpenDevice() function returns a zero result to the variable "error"; if the narrator device isn't opened, the variable "error" will contain an error code. Now that the narrator device is open and we have established a direct communication path, we can freely send it request blocks containing messages of what we want spoken. All that remains now is to create our messages.

Message Creation

As mentioned earlier, "FormNumber" uses its own algorithm to create phoneme-encoded strings. The program "Formnumber" assumes it is being executed from the CLI (Command Line Interface) and that the number to be spoken is entered on the command line also, for example "FormNumber $12,739.76". The program performs error-checking on the number string entered and it verifies that the number string entered is no more than 30 digits long (maximum length allowed). The input number string is separated in integral and fractional portions, if applicable, and the phoneme-encoded strings are formed.

If you examine the data areas of the programs you will notice that the phoneme-encoded strings are predefined. For example, the number 13 is represented by the phoneme-encoded string "THER4THTIYN". The *Amiga ROM Kernel Reference Manual: Libraries and Devices* (Addison-Wesley, 1990) explains phonemes in great detail. The algorithm creating the phoneme-encoded strings in "FormNumber" creates the strings by examining the input number string from left to right. The logic of the algorithm is fairly straightforward. It looks at the input number one digit at a time. Each digit is analyzed to determine which phoneme-encoded string it represents. The "1" digit could represent "WAH3N" (one), or it could just as easily represent "TWEH4LV" (twelve) if the "1" digit is immediately followed by a "2" (i.e., "12"). As exemplified in the latter case, the algorithm must know how the current digit relates to the position of other digits within the number string before choosing which phoneme-encoded string to use.

The "FormNumber" program examines each numerical digit in the input number string, chooses the appropriate phoneme-encoded string, and then concatenates all the individual strings to form the final phoneme-encoded string to be spoken by the narrator device. In "FormNumber" the final phoneme-encoded string is assigned to the variable "output_str". The final phoneme-encoded string is then inserted into the request block "writeNarrator". In C this is done with:

```
writeNarrator->message.io_Data = (APTR)output_str;
writeNarrator->message.io_Length = strlen(output_str);
```

and in Modula-2 it is:

```
WITH writeNarrator^ DO
  ...
  message.ioData    := ADR(outputstring);
  message.ioLength  := StringSize;
  ...
END;
```

Now we have a complete request block ready to be sent (mailed) to the narrator device. We send the request block using the DoIO() function call. DoIO() sends the request block to the narrator device and waits for the narrator device to finish speaking the "output_str" (phoneme-encoded string) before returning control to our main program. Once control returns to our main program, we sever the communication path to the narrator device, delete the request block and port from memory, and exit the program.

I hope that my short example of using the narrator device can be useful to you. You can easily modify both the Modula-2 and C coding examples so they may be used within any application program you choose to write. In addition to the *Amiga ROM Kernel Reference Manual: Libraries and Devices*, you may wish to consult *The Waite Group's Inside the Amiga with C* (Howard W. Sams & Company, 1988).

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[Program listings begin on the following page.]

Listing One: FormNumber Program Written in C

```
/* ================================================== */
/* Program Name          :  FormNumber
   Author     :  Lynwood Cowan
   Date                  :  March 1990

   Purpose :  This program demonstrates how to use
   the Amiga speech system.  The program will accept
   as input a number string (i.e. '1234.34') and
   convert the number string into an phoneme-encoded
   string to be spoken by the narrator device.  To
   use this program the user must enter the number
   to be spoken directly after the program name, for
   example 'Formnumber $12,342.83'.  The number entered
   will be spoken by the narrator device.

   - program will accept comma's in the input number
   - program will accept dollar sign's ($) in input
   - program will recite real numbers
   - program will not recite numbers longer than 30
     digits  */
/* ================================================== */

/* include files */
#include "exec/types.h"
#include "exec/exec.h"
#include <string.h>
#include <stdio.h>
#include <stdlib.h>
#include "devices/narrator.h"
#include "exec/ports.h"
#include "exec/io.h"


/* global constants */
#define  FALSE          0          /* false constant */
#define  TRUE 1         /* true constant */


/* PreDefined Strings */
char *zero = " ZEH1ROW";
char *one = " WAH3N";
char *two = " TUW3";
char *three = " THRIY4";
char *four = " FOH4R";
char *five = " FAY4V";
char *six  = " SIH4KS";
char *seven = " SEH3VIN";
char *eight = " EY3T";
char *nine = " NAY4N";
char *ten = " TEH4N";
char *eleven = " EH4LEHVVEHN";
char *twelve = " TWEH4LV";
char *thirteen = " THER4THTIYN";
char *fourteen = " FOH4R TIY4N";
char *fifteen = " FIH4FTHTIYN";
char *sixteen = " SIH4KSTIYN";
char *seventeen = " SEH3VINTIYN";
char *eighteen = " EY3T TIY4N";
char *nineteen = " NAY4N TIY4N";
char *twenty = " TWEH4NTIY";
char *thirty = " THER4TIY";
char *fourty = " FOH4RTIY";
char *fifty = " FIH4FTIY";
char *sixty = " SIH4KSTIY";
char *seventy = " SEH3VINTIY";
char *eighty = " EY3TIY";
char *ninety = " NAY4NTIY4";
char *hundred = " /HAH4NDRD";
char *thousand = " THAW3ZAEND";
char *million = " MIH4LIHUN";
char *billion = " BIH4LIHUN";
char *trillion = " TRIH4LIHUN";
char *quadrill = " KWAE4DRIHLIHUN";
char *quintill = " KWIH4NTRIHLIHUN";
char *sextill = " SEH4KSTIHLIHUN";
char *septill = " SEH4PTIHLIHUN";
char *octill = " AA4KTIHLIHUN";
char *dolls  = " DAA3LERS";
char *cents  = " SEH4NTS";
char *point  = " POY4NT";
char *say_and = " AE2ND";


/* Variables */

/* set decimal point flag to false */
short Point_Flag = FALSE;
/* set dollar flag to false */
short Dollar_Flag = FALSE;
/* array for integer part of number */
char number[32];
/* array for fraction part of number */
char fraction[32];
char final_str[550]; /* array for final phomne string */
short IntegerIsZero = FALSE;          /* zero integer flag */
short FractIsZero = FALSE;      /* zero fraction flag */


/* Local Functions */
char *check_input(char *input_num, char *good_num);
void get_fraction(char *input_num, char *frac_num);
void Form_Number(char *new_num);
void Say_Number(char *output_str);



main(int argc, char *argv[])
{
   /* check the input number */
   if (argc == 1) {
      /* no input number so exit */
      exit(0); }
   else {
      /* go and verify number entered */
      argv[1] = check_input(argv[1], &number[0]);

      /* default to zero */
      if ( number[0] == NULL ) {
             IntegerIsZero = TRUE;
             strcat(final_str, zero);
      } /* end of if */


      if (Point_Flag) {
         /* if point flag set for number process */
         /* fraction */
         get_fraction(argv[1], &fraction[0]);

         /* default to zero by setting flag */
         if ( fraction[0] == NULL ) {
                FractIsZero = TRUE;
         } /* end of if */

      } /* end of if */


      /* check if there are more than 30 digits */
      /* in number.  if so abort the program */
      if ((strlen(number) + strlen(fraction)) > 30)
         exit(0);


      /* skip if integer is zero */
      if (!IntegerIsZero) {

         if (atoi(number))
            /* form string of phonemes */
            /* from integer number */
            Form_Number(number);
         else
            /* nothing but zeros in number */
            strcat(final_str, zero);

      } /* end of if */

      /* add the word "dollars" to number */
      /* string if flag is true */
      if (Dollar_Flag)
         strcat(final_str, dolls);


      if (Point_Flag) {

         if (Dollar_Flag)
            /* add the word "and" to number string */
            strcat(final_str, say_and);
         else
            /* add "point" to number string */
            strcat(final_str, point);


         if (FractIsZero)
            /* add "zero" to final string */
            strcat(final_str, zero);
         else if (atoi(fraction))
            /* form string of phonemes from */
            /* fraction number */
            Form_Number(fraction);
         else
```

```
            /* nothing but zeros */
            strcat(final_str, zero);

          if (Dollar_Flag)
            /* add "cents" to number phoneme string */
            strcat(final_str, cents);

       } /* end of if */

    } /* end of else */

    /* recite number and exit program */
    Say_Number(final_str);

} /* main */



/* this function forms a phone string based on */
/* the number contained in the pointer *new_num */
void Form_Number(char *new_num)
{
  char *numstr = NULL;
  char *base = NULL;
  register char shortstr;
  register int digits;
  register int str_length; /* current string length */
  short range_base;

  /* get length of integer part of number */
  str_length = strlen(new_num);

  /* repeat this loop until the string for the */
  /* number is completely formed by concatenation */


  do {

    /* remember *new_num points to first character */

    shortstr = *new_num++; /* extract first character */

    switch (shortstr) {
      case '1': numstr = one;
                break;
      case '2': numstr = two;
                break;
      case '3': numstr = three;
                break;
      case '4': numstr = four;
                break;
      case '5': numstr = five;
                break;
      case '6': numstr = six;
                break;
      case '7': numstr = seven;
                break;
      case '8': numstr = eight;
                break;
      case '9': numstr = nine;
                break;
      default:  shortstr = NULL;
                break;
    } /* end of switch */


    /* if character not '0' then assign a base */
    if (shortstr != NULL) {

      /* compute range for base */
      range_base = (str_length - 1)/3;

        switch (range_base) {
          case 0:  base = NULL;
                   break;
          case 1:  base = thousand;
                   break;
          case 2:  base = million;
                   break;
          case 3:  base = billion;
                   break;
          case 4:  base = trillion;
                   break;
          case 5:  base = quadrill;
                   break;
          case 6:  base = quintill;
                   break;
          case 7:  base = sextill;
                   break;
          case 8:  base = septill;
                   break;
```



```
          case 9:  base = octill;
                   break;
          default: base = NULL;
                   break;
    } /* end of switch */

  } /* end of if */


  /* compute number of digits to be */
  /* hundred, tenth, or single digit */
  digits = str_length % 3;

  switch (digits) {
    case 0: if (shortstr) {
              /* if character not '0' */
              strcat(final_str, numstr);
              strcat(final_str, hundred);
            } /* end of if */
               break;

    case 2: if (shortstr) {
              switch (shortstr) {
                case '1':
                switch (*new_num++) {
                        case '0': strcat(final_str, ten);
                             break;
                    case '1': strcat(final_str, eleven);
                             break;
                             case '2': strcat(final_str, twelve);
                             break;
                    case '3': strcat(final_str, thirteen);
                             break;
                    case '4': strcat(final_str, fourteen);
                             break;
                    case '5': strcat(final_str, fifteen);
                             break;
                          case '6': strcat(final_str, sixteen);
                             break;
                             case '7': strcat(final_str, seventeen);
```

```
                        break;
                         case '8': strcat(final_str, eighteen);
                        break;
                         case '9': strcat(final_str, nineteen);
                        break;
                } /* end of switch */

                strcat(final_str, base);
                str_length--;
                     base = NULL;
                break;

              case '2': strcat(final_str, twenty);
                        break;
              case '3': strcat(final_str, thirty);
                        break;
              case '4': strcat(final_str, fourty);
                        break;
              case '5': strcat(final_str, fifty);
                        break;
              case '6': strcat(final_str, sixty);
                        break;
              case '7': strcat(final_str, seventy);
                        break;
              case '8': strcat(final_str, eighty);
                        break;
              case '9': strcat(final_str, ninety);
                        break;
             } /* end of switch */
            } /* end of if */
            break;

    case 1:  if (shortstr) {
               /* handle the case on a nonzero digit */
               strcat(final_str, numstr);
               strcat(final_str, base);
             } else {
               /* handle the case of the zero digit */
               strcat(final_str, base);
             } /* end of if */

                 base = NULL;
             break;

   } /* end of switch */

   /* decrement number string length */
   str_length--;

  } while (str_length > 0);
  /* stop loop when string length <= 0 */

} /* Form_Number */



/* this function retrieves the number from the command */
/* line numbers longer than 30 digits will cause the  */
/* program to abort */
char *check_input(char *input_num, char *good_num)
{

   /* remember *input_num points */
   /* to first character of input number */

   /* check if pointer points to a dollar sign */
   if (*input_num == '$') {
      /* set dollar sign flag */
      Dollar_Flag = TRUE;

      /* move pointer to next character */
      *input_num++;

   } /* end of if */

   /* skip leading zeros */
   while (*input_num == '0')
      *input_num++;

   /* strip out all characters that are not in the */
   /* range 0 thru 9 */
   do {

      /* remember *input_num is pointing to */
      /* first character */

      if ( (*input_num >= '0') && (*input_num <= '9') ) {
         /* create valid number string */
         *good_num++ = *input_num;

      }

      else if (*input_num == '.') {
         /* set flag signifying decimal point */
            Point_Flag = TRUE;
      } /* end of else */

      /* increment pointer to *input_num and keep */
      /* performing do-while until NULL or '.' reached */
   } while ( !Point_Flag && (*input_num++ != NULL) );

   /* return pointer to current */
   /* character of input number */
   return input_num;

} /* check_input */



/* this function gets the fraction part of number. */
/* the *input_num points to first undeciphered */
/* character in the input number string. */
void get_fraction(char *input_num, char *frac_num)
{

   /* strip out all characters that are not in */
   /* the range 0 thru 9 */
   do {

      /* remember *input_num is points to first char. */

      if ( (*input_num >= '0') && (*input_num <= '9') ) {
            /* create valid number string & */
            /* point to next character space */
         *frac_num++ = *input_num;

      } /* end of if */

      /* increment counter at command line argv */
      *input_num++;

   } while (*input_num != NULL);
   /* keep performing do-while until NULL is reached */

} /* get_fraction */



/* this function recites the phoneme-encoded string */
/* using the narrator device. The input is the */
/* phoneme-encoded string *output_str. */
void Say_Number(char *output_str)
{
   struct MsgPort *writeport = NULL;
   struct narrator_rb *writeNarrator = NULL;

   extern struct MsgPort *CreatePort();
   extern struct IORequest *CreateExtIO();

   SHORT error;
   /* which channels to use */
   BYTE audChanMasks[4] = {3,5,10,12};


   /* create a port */
   writeport = CreatePort(0,0);

   /* if port not created exit */
   if (writeport == NULL) {
      printf("Error in creating WritePort\n");
      exit(0);
   }


   /* open the narrator device */
   writeNarrator = (struct narrator_rb *) CreateExtIO
       (writeport, sizeof(struct narrator_rb));

   if (writeNarrator == NULL) {
      printf("error in creating ExtIO\n");

      /* delete port */
      DeletePort(writeport);
      exit(0);
   }
```

```
    /* SET UP PARAMETERS FOR WRITING MESSAGE */
    /* TO NARRATOR DEVICE */
    /* show where to find the channel masks */
    writeNarrator->ch_masks = (audChanMasks);

    /* and tell it how many of them there are */
    writeNarrator->nm_masks = sizeof(audChanMasks);

    /* tell it where to find the string to speak */
    writeNarrator->message.io_Data = (APTR)output_str;

    /* tell it how many characters the translate */
    /* function returned */
    writeNarrator->message.io_Length = strlen(output_str);

    /* tell it this is a write command */
    writeNarrator->message.io_Command = CMD_WRITE;

    /* Open the Device */
    error = OpenDevice("narrator.device",0,writeNarrator,0);

    /* if narrator device not open exit */
    if (error != NULL) {
       DeleteExtIO(writeNarrator);
       DeletePort(writeport);
       exit(0);
    }

    /* set volume */
    writeNarrator->volume = DEFVOL;

    writeNarrator->message.io_Data = (APTR)output_str;
    writeNarrator->message.io_Length = strlen(output_str);

    /* perform IO request, and speak to us now */
    DoIO(writeNarrator);

    /* cleanup everything and exit */
    CloseDevice(writeNarrator);
    DeleteExtIO(writeNarrator);
    DeletePort(writeport);

} /* Say_Number */
```


Listing Two: FormNumber Program Written in Benchmark Modula-2

```
DEFINITION MODULE Narrate;
(* Definition module for using the narrator device *)

(* Program Name          : Narrate
   Author     : Lynwood Cowan
   Date                  : March 1990    *)


TYPE
   long_string  = ARRAY [0..499] OF CHAR;


PROCEDURE Cleanup;
(* cleanup by closing narrator device and related ports *)


PROCEDURE Say_Number(outputstring  : long_string; StringSize :
LONGCARD );
(* this procedure uses the narrator device to speak an already *)
(* phoneme-encoded string *)
(* outputstring is the phoneme-encoded string to be spoken and *)
(* StringSize is the length of outputstring *)


END Narrate.



IMPLEMENTATION MODULE Narrate;

(* Program Name          : Narrate
   Author     : Lynwood Cowan
   Date                  : March 1990    *)


FROM SYSTEM          IMPORT ADR, BYTE, TSIZE;
FROM IODevices       IMPORT OpenDevice, CloseDevice, DoIO,
CmdWrite;
FROM IODevicesUtil   IMPORT CreateExtIO, DeleteExtIO;
FROM Libraries       IMPORT OpenLibrary, CloseLibrary;
FROM NarratorDevice  IMPORT narratorrbPtr, narratorrb;
FROM Ports           IMPORT MsgPortPtr;
FROM PortsUtil       IMPORT CreatePort, DeletePort;


CONST
  (* audio channel assignments *)
  Left0  = 0;
  Right0 = 1;
  Right1 = 2;
  Left1  = 3;

TYPE
  AudioChannelSet = SET OF [Left0..Left1];

VAR
  writeport     : MsgPortPtr;
  writeNarrator : narratorrbPtr;
  error         : INTEGER;
  audChanMasks  : ARRAY [0..3] OF AudioChannelSet;



PROCEDURE Cleanup;
BEGIN
  IF writeNarrator  # NIL THEN CloseDevice(writeNarrator);
END;
  IF writeNarrator  # NIL THEN DeleteExtIO(writeNarrator);
END;
  IF writeport      # NIL THEN DeletePort(writeport^);
END;
  HALT;
END Cleanup;
```

```
PROCEDURE Say_Number(outputstring  : long_string; StringSize :
LONGCARD );
(* this procedure uses the narrator device to speak an already *)
(* translated string *)

BEGIN
   WITH writeNarrator^ DO
     chmasks           := ADR(audChanMasks);
     rmmasks           := SIZE(audChanMasks);
     message.ioData    := ADR(outputstring);
     message.ioLength  := StringSize;
     mouths            := BYTE(0);
     message.ioCommand := CmdWrite;
   END;


   (* initiate request to narrator device *)
   error :=
OpenDevice(ADR("narrator.device"),0D,writeNarrator,0D);
   IF error # 0 THEN Cleanup; END;

   (* perform IO request, and speak to us *)
   error := DoIO(writeNarrator);

END Say_Number;




BEGIN

   (* initialize the module *)
   audChanMasks[0] := AudioChannelSet(Left0,Right0);
   audChanMasks[1] := AudioChannelSet(Left0,Right1);
   audChanMasks[2] := AudioChannelSet(Left1,Right0);
   audChanMasks[3] := AudioChannelSet(Left1,Right1);

   (* open the narrator device *)
   writeport := CreatePort(NIL,0);
   IF writeport = NIL THEN Cleanup; END;
   writeNarrator := CreateExtIO(writeport^,TSIZE(narratorrb));
   IF writeNarrator = NIL THEN Cleanup; END;

END Narrate.



MODULE FormNumber;

(* ================================================== *)
(* Program Name          :  FormNumber
   Author    :  Lynwood Cowan
   Date                  :  March 1990

   Purpose :  This program demonstrates how to use
   the Amiga speech system.  The program will accept
   as input a number string (i.e. "1234.34") and
   convert the number string into an phoneme-encoded
   string to be spoken by the narrator device.  To
   use this program the user must enter the number
   to be spoken directly after the program name, for
   example 'Formnumber $12,342.83'.  The number entered
   will be spoken by the narrator device.

   - program will accept comma's in the input number
   - program will accept dollar sign's ($) in input
   - program will recite real numbers
   - program will not recite numbers longer than 30
     digits  *)
(* ================================================== *)


FROM SYSTEM   IMPORT ADR, LONG, ADDRESS;
FROM Strings  IMPORT DeleteSubString, StringLength,
                                      ConcatString;
FROM Narrate  IMPORT long_string, Cleanup, Say_Number;
FROM System     IMPORT argc, argv;


CONST
   null        =  0C;            (* null character *)
   zero        =  ' ZEH1ROW';
   one         =  ' WAH3N';
   two         =  ' TUW3';
   three       =  ' THRIY4';
   four        =  ' FOH4R';
   five        =  ' FAY4V';
   six         =  ' SIH4KS';
   seven       =  ' SEH3VIN';
   eight       =  ' EY3T';
   nine        =  ' NAY4N';
   ten         =  ' TEH4N';
   eleven      =  ' EH4LEHVVEHN';
   twelve      =  ' TWEH4LV';
   thirteen    =  ' THER4THTIYN';
   fourteen    =  ' FOH4R TIY4N';
   fifteen     =  ' FIH4FTHTIYN';
   sixteen     =  ' SIH4KSTIYN';
   seventeen   =  ' SEH3VINTIYN';
   eighteen    =  ' EY3T TIY4N';
   nineteen    =  ' NAY4N TIY4N';
   twenty      =  ' TWEH4NTIY';
   thirty      =  ' THER4TIY';
   fourty      =  ' FOH4RTIY';
   fifty       =  ' FIH4FTIY';
   sixty       =  ' SIH4KSTIY';
   seventy     =  ' SEH3VINTIY';
   eighty      =  ' EY3TIY';
   ninety      =  ' NAY4NTIY4';
   hundred     =  ' /HAH4NDRD';
   thousand    =  ' THAW3ZAEND';
   million     =  ' MIH4LIHUN';
   billion     =  ' BIH4LIHUN';
   trillion    =  ' TRIH4LIHUN';
   quadrill    =  ' KWAE4DRIHLIHUN';
   quintill    =  ' KWIH4NTRIHLIHUN';
   sextill     =  ' SEH4KSTIHLIHUN';
   septill     =  ' SEH4PTIHLIHUN';
   octill      =  ' AA4KTIHLIHUN';
   dolls       =  ' DAA3LERS';
   cents       =  ' SEH4NTS';
   point       =  ' POY5NT';
   say_and     =  ' AE2ND';


TYPE
   num_string = ARRAY [1..40] OF CHAR;

VAR
   digits : CARDINAL;
   shortstr : ARRAY [1..1] OF CHAR;
   str_length : CARDINAL;
   One_Char : CHAR;

   number : num_string;
   fraction : num_string;
   base, numstr : num_string;
   finalstr : long_string;

   j, k   : CARDINAL;
   Point_Flag : BOOLEAN;
   Dollar_Flag : BOOLEAN;



PROCEDURE All_Zeros_Test(test_value : num_string):BOOLEAN;
(* procedure to test if the test_value contains all zeros
   if so return return true to the caller *)

VAR
   result : BOOLEAN;
   i, test_length : CARDINAL;

BEGIN
   i := 1;   (* initialize counter variable *)

   (* get initial string length *)
   test_length := StringLength(test_value);

   REPEAT
      IF (test_value[i] # '0') THEN
         (* nonzero number set flag *)
         RETURN (FALSE);
      END;  (* end of if *)

      i := i + 1;       (* increment counter *)

   UNTIL (i > test_length);

   RETURN (TRUE);

END All_Zeros_Test;



PROCEDURE Form_Number;
(* procedure to create a number string of words *)
(* from the number *)
```

```
VAR
   baselength : CARDINAL;

BEGIN
   (* repeat this loop until the string for the number
   is completely formed, by concatenation. *)

   REPEAT

      (* extract first number *)
      shortstr[1] := number[1];

      (* delete first character *)
      DeleteSubString(number,0,1);

      CASE shortstr[1] OF
         '1':  numstr := one |

         '2':  numstr := two |

         '3':  numstr := three |

         '4':  numstr := four |

         '5':  numstr := five |

         '6':  numstr := six |

         '7':  numstr := seven |

         '8':  numstr := eight |

         '9':  numstr := nine |

         ELSE
            shortstr[1] := null;
            numstr := '';

      END;  (* end of case *)

      (* if character is not '0' then assign a base *)
      IF (shortstr[1] # null) THEN

         (* compute base length *)
         baselength := str_length - 3;

         (* assign base to current number *)
         IF (baselength <= 3) THEN
            base := thousand
         ELSIF (baselength <= 6) THEN
            base := million
         ELSIF (baselength <= 9) THEN
            base := billion
         ELSIF (baselength <= 12) THEN
            base := trillion
         ELSIF (baselength <= 15) THEN
            base := quadrill
         ELSIF (baselength <= 18) THEN
            base := quintill
         ELSIF (baselength <= 21) THEN
            base := sextill
         ELSIF (baselength <= 24) THEN
            base := septill
         ELSIF (baselength <= 27) THEN
            base := octill
         ELSE
            base := ''
         END;  (* end of if *)

      END;  (* end of if *)


      (* remember number of digits hundred, tenth,
       or single digit *)
      digits := str_length MOD 3;


      CASE digits OF

         0:  IF shortstr[1] # null THEN
                ConcatString(finalstr,numstr);
                ConcatString(finalstr,hundred);
             END |

         2: IF shortstr[1] # null THEN
               CASE shortstr[1] OF
                  '1': CASE number[1] OF
                        '0': ConcatString(finalstr,ten)|

                        '1': ConcatString(finalstr,eleven)|

                        '2': ConcatString(finalstr,twelve)|

                        '3': ConcatString(finalstr,thirteen)|

                        '4': ConcatString(finalstr,fourteen)|

                        '5': ConcatString(finalstr,fifteen)|

                        '6': ConcatString(finalstr,sixteen)|

                        '7': ConcatString(finalstr,seventeen)|

                  '8': ConcatString(finalstr,eighteen)|

                  '9': ConcatString(finalstr,nineteen)

               ELSE
                  (* case statement *)
               END;

               ConcatString(finalstr,base);
               DeleteSubString(number,0,1);
               base := '';
               str_length := str_length -1 |


            '2':  ConcatString(finalstr, twenty) |

            '3':  ConcatString(finalstr, thirty) |

            '4':  ConcatString(finalstr, fourty) |

            '5':  ConcatString(finalstr, fifty) |

            '6':  ConcatString(finalstr, sixty) |

            '7':  ConcatString(finalstr, seventy) |

            '8':  ConcatString(finalstr, eighty) |

            '9':  ConcatString(finalstr, ninety)

            ELSE

          END;  (* end of case statement *)

         END |
         (* if *)


      1:  IF shortstr[1] # null THEN
             ConcatString(finalstr,numstr);
             ConcatString(finalstr, base);
          ELSE
             (* handle the case of the zero digit *)
             ConcatString(finalstr, base);
          END;  (* end of if *)

          (* reset base to null *)
          base := '';

      ELSE
      (* case statement *)
```

```
      END;  (* end of case *)

      (* change string length *)
      str_length := str_length - 1;

   UNTIL (str_length <= 0);
   (* end of repeat *)

END Form_Number;




BEGIN
   (* retrieve the number from the command line *)
   IF argc <= 1 THEN

      (* exit this program, since no number was entered *)
      HALT;

   ELSE
      (* continue executing program , valid number *)

      k := 0;               (* initialize counter *)
      j := 0;
      number := '';          (* create empty string *)

      (* set decimal point flag to false *)
      Point_Flag := FALSE;
      (* set dollar flag to false *)
      Dollar_Flag := FALSE;


      IF ( argv^[1]^[0] = '$' ) THEN
         (* set dollar sign flag *)
         Dollar_Flag := TRUE;

         (* increment counter at command line argv *)
         j := j + 1;

      END; (* end of if *)



      (* strip out all characters that are *)
      (* not in the range 0 thru 9 *)
      REPEAT

         (* this is an array of char *)
         One_Char := argv^[1]^[j];

         IF ( One_Char >= '0' ) AND (One_Char <= '9' ) THEN
            k := k + 1;
            (* creating valid number string *)
            number[k] := One_Char;
         ELSE
                IF ( One_Char = '.' ) THEN
              (* set flag signifying decimal point *)
                   Point_Flag := TRUE;
                 END
         END;

         (* increment counter at command line argv *)
         j := j + 1;

      UNTIL Point_Flag OR (One_Char = null);

      IF (number[1] = null) THEN
         (* default to zero *)
         number := '0';
      END;  (* end of if *)


      IF Point_Flag THEN
         (* strip out the fraction if flag set *)

         k := 0;                  (* initialize counter *)
         fraction := '';        (* create empty string *)

         REPEAT
            (* this is an array of char *)
            One_Char := argv^[1]^[j];

            IF (One_Char >= '0') AND (One_Char <= '9') THEN
               k := k + 1;
               (* creating valid number string *)
               fraction[k] := One_Char;
                 END;
                 (* increment counter at command line argv *)
            j := j + 1;

         UNTIL (One_Char = null);

         IF (fraction[1] = null) THEN
            (* default to zero *)
            fraction := '0';
         END;  (* end of if *)

      END;  (* end of if *)

   END;  (* end of if *)

   (* check if there are more than 30 digits *)
   (* in number and if so abort the program *)
   IF ((StringLength(number) +
            StringLength(fraction)) > 30) THEN
      HALT;
   END;  (* end of if *)

   (* make string null *)
   finalstr := '';

   (* get initial string length *)
   str_length := StringLength(number);

   IF All_Zeros_Test(number) THEN
      (* nothing but zeros *)
      finalstr := zero;
   ELSE
      (* form the string of words from number *)
      Form_Number;
   END;  (* end of if *)

   (* delete first space from number string *)
   DeleteSubString(finalstr,0,1);

   IF Dollar_Flag THEN
      (* add the word dollars to number string *)
      ConcatString(finalstr, dolls);
   END;  (* end of if *)


   IF Point_Flag THEN
      IF Dollar_Flag THEN
         (* add the word "and" to number string *)
         ConcatString(finalstr, say_and);
      ELSE
         (* add cents to word string *)
         ConcatString(finalstr, point);
      END;  (* end of if *)

      (* form fraction part of number *)
      number := fraction;

      (* get initial string length *)
      str_length := StringLength(number);

      IF All_Zeros_Test(number) THEN
         (* nothing but zeros *)
         ConcatString(finalstr, zero);
      ELSE
         (* form the string of words from *)
         (* fraction of number *)
         Form_Number;
      END;  (* end of if *)


      IF Dollar_Flag THEN
         (* add cents to word string *)
         ConcatString(finalstr, cents);
       END;  (* end of if *)

   END;  (* end of if *)


   (* speak the combined number *)
   Say_Number(finalstr, LONGCARD(StringLength(finalstr)));

   (* close all open narrator *)
   (* devices, and related ports *)
   Cleanup;

END FormNumber.
```

•AC•

ROOMERS

by The Bandito

[The statements and projections presented in "Roomers" are rumors in the purest sense. The bits of information are gathered by a third-party source from whispers inside the industry. At press time, they remain unconfirmed and are printed for entertainment value only. Accordingly, the staff and associates of Amazing Computing™ cannot be held responsible for the reports made in this column.]

Commodore Watchers

The Bandito, of course, was the one who first told you about the Amiga 3000T, or the tower version of the Amiga. Now The Bandito hears that Commodore will offer a different version with a 68040 card in it, in much the same way as the A2500 was introduced. This machine will be so fast that you'd have to be The Flash to play arcade games on it—at least those games where the programmers don't know how to do proper timing loops, that is. When can you get one? Perhaps by Christmas. Right now, the 68040 chip is still shipping in miniscule quantities, so Commodore sees no reason to move faster on the hardware. *[At press time, we had no confirmation of this new machine.—Ed]*

Commodore stock is wandering around 18 these days, and The Bandito thinks it might be heading higher. Were you one of those lucky folks who bought it at 4 1/2 a year ago? The Bandito even remembers, long ago in the heyday of the C64, when Commodore stock was in the 60's. Could it happen again? Well, anything's possible on Wall Street, but don't hold your breath.

The prototype of the CDTV CD-ROM drive for the A500 prototype has been shown at recent conventions. To the discerning engineer's eye, it's obvious that this puppy is still some distance from actually being on the market. Commodore still hasn't figured out what the specs will be. There's some internal debate going on about how much RAM expansion might be in it and other expansion possibilities. So don't expect to turn your existing Amiga into a CDTV clone right away. You may be waiting until the fall, or perhaps even hoping that Santa will bring you a CDTV CD-ROM drive.

What's that you say? You have an A2000/A2500 and you want an internal CDTV CD-ROM drive? Here's how to get one: buy a 1992 calendar and circle the month of June. When that comes around, call your dealer and see whether he's heard of an internal CDTV CD-ROM drive for the A2000 yet. Chances are he might...maybe. You have an A3000? Sorry, chances are that CDTV CD-ROM just isn't going to fit.

And The Bandito believes that if you expect the pricing on a Commodore CDTV CD-ROM to be incredibly cheaper than CDTV, you may be disappointed. Commodore will be producing CDTV in high volumes, thus keeping the price low. You may just want to get a CDTV when the price gets lower. Besides, you can put that in the living room with the TV set, where you can have more fun with it. Don't forget to buy an external disk drive so you can play *Shadow of the Beast* on your 27" TV screen with your stereo going full blast.

The Bandito has heard there's some confusion regarding running CDTV software on an Amiga connected to a non-Commodore CD-ROM drive like the Xetec CD-ROM. Well, the truth is that some CDTV software will run just fine, but some might not since CDTV contains extra hardware and software you won't find in a stock Amiga. Of course, third-party CD-ROM manufacturers will do their best to make their drives CDTV compatible, but it really depends on how much technical help Commodore is willing to give them.

Some of the hacker types out there are having fun with CDTV, hooking up to another Amiga and accessing the CD-ROM like a disk drive. Seems there are some surprises on the free disk you get in the box—apparently, they forgot to clean off the disk before it was mastered. The Bandito says "check it out!"

In other CDTV news, The Bandito hears that CDTV was a big hit at the World of Amiga show, where apparently Commodore sold about 350 of them. Of course, that's to the really dedicated fans. How well CDTV does at the retail store, we won't know for a while.

Commodore has been reviewing many different plans for its Amiga line. Here's The Bandito's suggestions: how about a cost-reduced A500 to anchor the low end of the line? It should have a retail price of $299, with 1 meg of

memory and a disk drive. With some engineering, the motherboard cost could be significantly reduced, and the RF modulator built in. A new version of the A2000 is needed for the mid-range: cost-reduce the motherboard, and base the case design around the A3000 to keep the price low. Perhaps a small, three-slot unit and a large seven-slot unit would be an effective way to fill out the middle of the line. The three-slot unit would be something to compete with the Mac Classic, Macintosh LC, and IBM's PS/1 series. Maybe even drop in a 68020 instead of a 68000, or perhaps just a faster 68000 would be appreciated (14 MHz). If you price a unit like that around $1000, it would be very strong competition for IBM and Apple.

The Bandito has heard whispers about a new chip in the works for the Amiga that would provide 8-bitplane displays, giving you 256 colors. Of course, there are many problems to be overcome before we would see this in an Amiga. The blitter would have to be revised to work with this new standard, and ideally the blitter should be able to work with full 24-bit displays. When you have to move that many bits around, you really need acceleration. Perhaps the most difficult problem is compatibility with the current graphics libraries and graphics programs. But Commodore is committed to solving these problems. With the new Denise, they've pushed the current Amiga display technology about as far as it will go. It's time to start fresh and create a new standard. The Bandito predicts that we'll see this first in new, high-end Amigas. It will be years before such graphics would be a standard part of an Amiga 500.

Besides, Commodore is rather pleased right now about the proliferation of 24-bit video from third-party vendors. The trio of low cost solutions (DCTV, HAM-E, and ColorBurst) gives Commodore a way to say, "See? We have 24-bit color, and for much less than a Mac or IBM!" If only there was a little more standardization...but at least the 24-bit IFF file format helps out.

Commodore is also kicking around several ideas on improving the audio of the Amiga. The Bandito thinks the best one is to put a digital signal processor chip in there to handle the sound. This could provide terrific sound capabilities, and if it was put on the motherboard properly, clever programmers could also use it for video processing or even to help with some math functions.

Sound of Music

The Bandito told you a while back there were some hot audio cards coming. Well, a company called Beta Unlimited is introducing a 16-bit audio processor called AudioLink that provides up to 16 voices (eight in stereo) at sampling rates of up to 48 kHz (compact discs are only 44 kHz!). And you can do 2x oversampling, too, or 96 kHz if you're sampling in mono. The board can have up to 16 MB of memory on it, and includes MIDI ports. Of course, you get sound-editing software, too.

And they're not the only game in town. Sunrize Industries (creators of PerfectSound) is introducing some new hardware and software to make the Amiga a professional sound-editing box. Their Audition 4 software is a new IFF sound editor, which sounds like fun. But their new audio cards, the AD1012 and AD 1016, give you 12-bit or 16-bit digital sound. The 12-bit card is fine for video work, while the 16-bit card is a must for CD-quality sound—up to 100,000 samples per second, with the sample length limited only by your hard disk size.

Now the Amiga can take its rightful place in the musician's studio. Kiss it goodbye, Atari. Your last market niche is gone.

New on the Shelf

The Bandito has seen a very interesting new gizmo from ICD: the Novia 20i, the first internal hard drive for the Amiga 500. This may be the first such drive, but it won't be the last. How do they fit a hard drive into an A500? Some clever engineering, starting with a 2.5" hard drive. Now that 40 and 60 MB 2.5" drives are available, The Bandito thinks it won't be long before you can have what looks like a stock A500 with a 60 MB hard drive under the hood and multiple megabytes of RAM, maybe even a 68030 accelerator. A great way to fool your friends: "Gee, you mean you don't have 60 megabytes of storage on *your* A500?"

The Video Toaster has created a market for add-on products, and Digital Creations is the latest to enter that market. They have come up with a dual-channel time base corrector (TBC) that allows you to use two standard VCR's with the Video Toaster. Unfortunately, they've decided to follow NewTek's lead in silly product names by calling it The KITCHEN Sync (Kompletely Integrated Time base Correctors Having Everything Necessary to SYNChronyze 2 independent video sources). Frankly, The Bandito loves all this neat hardware, but that kind of product name would gag a maggot. Whatever happened to good old letters and numbers for electronic devices: the NewTek VT133-Z2, or the Digital Cre-

ations KS500/2? Are we doomed to a succession of products named after household appliances, fixtures, and furnishings? What's next — the Totally Ornamental Illuminated Linear Electronic Tester?

Apple Polishers

The Bandito hears some odd things coming out of Apple these days. Apparently, they are really taking notice of events at Commodore. So much so that some of their new product ideas are starting to resemble Commodore products. Apple has set up a consumer products division, and among other things they're thinking about a competitor for CDTV. Apple's version would essentially be a Macintosh with a CD-ROM drive built in, made to look like a stereo component. Sound familiar? The only hitch is that since the Mac doesn't use a blitter, they'll have to put a 68020 chip in it, and thus the price tag will be slightly stratospheric — and it'll be slower than CDTV at displaying images.

But Apple has other ideas, too. They're making plans with Sony to introduce a $500 Macintosh-based videogame machine that hooks into a TV set. At least, that's what The Bandito hears — it sounds pretty wacky.

Entertainment Software

What kind of fun can you have this summer? Of course, there are hordes of European shoot-em-ups heading this way. Those guys sure know how to get great sound and graphics performance out of an Amiga. If only they could design a game with just a tad more intellectual depth than *Space Invaders*, they'd be a real threat. As it is, when you've seen one parallax-scrolling 64-color stereo-sound arcade masterpiece, you've pretty much seen 'em all.

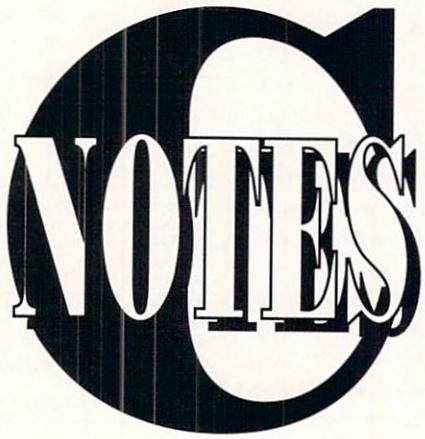
There are a few interesting things out there. The Bandito thinks that *Lemmings* from Psygnosis is pretty cool; it certainly has the most amusing disposal method for on-screen characters since the old *Death Race 2000* arcade game. But if you really must have an arcade game, the smash IBM hit *Wing Commander* is coming to the Amiga. This summer? Ho ho ho, says The Bandito. Try Christmas.

By the way, bad news continues to hit the entertainment software business. The latest company to take the hit is Software Toolworks, which has laid off about 22 percent of its workforce (60 people). They'll take a $375,000 charge for severance costs in the quarter ending March 31. For the quarter ending Dec. 31, they lost $4.8 million on sales of $27.1 million. They blamed the usual suspects: slowing sales and a bad economy. But don't weep too much for them; they have tens of millions of dollars in the bank.

But you don't care about that; you want to see products. Well, something you should be able to find during the summer months is *Eye of the Beholder* from SSI. This essentially is a better version of *DungeonMaster*. *EOB* is the new king of Amiga role-playing games, and *DungeonMaster* has a lot of catching up to do. Those guys have had years to come out with follow-ons to the success of *DM*, and they finally came out with *Chaos Strikes Back*, which really doesn't offer any improvements on the original. The Bandito supposes they've just been taking it easy or something. Haven't they heard of competition? Get with it!

But if you want something that's completely out in left field, you have to go to Maxis. Those crazy guys who invented SimCity and SimEarth have come up with a really offbeat idea this time: SimAnt. Yes, it's a simulation of an ant colony. Sounds bizarre, but it could be a lot of fun battling various garden critters—as well as those pesky humans—in an effort to grow your colony. When will it be shipping? The Bandito couldn't say; after all, there *are* many *bugs* in the software...

•AC•



From the C Group

by Stephen Kemp

IF YOU'VE BEEN FOLLOWING along, you'll recall that last month I introduced a new "shell" program from which simple utility programs can begin. This month's column will build upon the program code presented in that article.

Included in this shell is a new method of command line parsing that is data-driven. Support functions have been designed in a generic fashion and do not make any assumptions about what switches will be received. This makes adding new "switches" (re: features) to utility programs simple and allows the programmer to concentrate more effort upon the actual code required to perform these new activities.

Another feature of this command line processing is that the arguments and switches can be given in any order. This means that a rigid user interface is not required. Once the switches have been parsed, the program can begin "asking" for the arguments using a sequential index. Again, this allows flexibility from the user's standpoint, and yet the process can be handled by the support functions without extra effort on the programmer's part.

This month the final portion of my shell has been integrated into the previous one. These new functions handle file pattern processing which will make it simple to develop utility programs that search for particular files by pattern and, if activated, through subdirectories.

Listing One contains the code to a simple "directory" program. Although there is one function developed specifically for this program (we will discuss the operate() function later), the remainder is the generic function code of the shell that can be reused easily with many other utility programs. To begin examining the listing, let's have a short review of the items introduced last time.

At the heart of the new model is the data structure named CMD_SWITCHES, defined as follows:

```
typedef struct {
    char swtch;       /*switch letter*/
    char active;      /*active true/false*/
    char *name;       /*name of command*/
    char *help;       /*help information*/
    char *data;       /*data pointer if given*/
}CMD_SWITCHES;
```

This structure offers the most common requirements of command line switches used in my programs. An example initialization of the structure might look like this:

```
{'S', 0, "Subdirectories", "included in file search", NULL};
```

where 'S' represents the command line switch character. Active is set to FALSE (0). The confirmation message is a character string—in this example "Subdirectories". The help text is designed to continue the confirmation message should it be requested. Finally, the data pointer is set to NULL so that we can tell if the user defines one (if we require it).

The functions in the program were developed as a series of building blocks. These functions are included within the source in the specified order so additional prototyping is not required:

get_arg(): Searches the command line and returns a pointer to the requested argument number (excluding switches).

set_switch(): Activates the user-specified switch in the command list and assigns the data pointer given.

switch_set(): Tests and returns the setting of the specified switch.

switch_data(): Returns the data pointer value of the specified switch.

check_switches(): Searches the command line and assigns the appropriate switches and data pointers.

help_command(): Outputs the confirmation statements of activated switches and optionally the help associated with those switches.

ask(): Used to retrieve a Yes or No response from the user to a passed question.

There are three more primary functions added to the new shell program and a fourth function was added to start (hold) the utility specific code. Let's address these functions in the order in which they will be accessed from main(), the start of the program.

After the initial command line processing and switch setting, fixname() is the first new function referenced. This function is passed the current argument and performs a few tests. Initially, the passed argument will be parsed into the components that make up a filename: Drive, Directory Path, Filename, and Extension.

Test number one tries to determine if the pattern name passed contains any wildcard references (the characters '#?'). If it does then the argument is not changed and the function will bypass the remaining code and return a pointer to that argument.

If there are no wildcards, a test is made to determine if no directory or filename was specified. If none are specified, the wildcard characters '#?' are attached. The wildcard characters are also attached if the name passed is simply a directory name.

This function is basically designed to handle the "default" assignments. Other code may be required in this function from time to time. For instance, some programs may require the setting of default filenames, extensions, paths, etc. If you don't require default assignments in the utility being developed, then simply bypass the function.

After fixname() returns to main() the second new function is called. The primary function of lookfordir() is to locate subdirectories if requested by the user. The original pattern received by lookfordir() is passed on initially and, after returning, determines whether the user requested a search of the subdirectories. If subdirectories are included then lookfordir() calls itself recursively to further parse the requested pattern.

A third new function, called by lookfordir(), is lookforpat(). Here, all files that match the pattern are determined. In this utility, which is similar to the DIR program, both normal filenames and directory filenames are included in the search. In other utility programs it may not be necessary to include the subdirectories since the intent will most likely be to find only files. I tried to indicate the code that may be eliminated if desired. Upon finding a matching name to the pattern it is passed off to the operate() function which handles the utility-specific code.

Utility-specific code can be whatever is required. Of course, it doesn't all have to be handled in one function—operate() is simply the starting point. The parameters include the pathname found matching the pattern, the type of pathname (a file or directory), and the FileInfoBlock (the directory information) for the current file.

From this information, it should be easy to determine if the program should continue with the remainder of the utility-specific code. Determining this might include testing the time and/or date of the file, the size of the file, or any of the components of the directory entry. Additionally, it may be necessary to open the file and read a header before deciding to continue. In DDIR, there is no need to do any of these things since we simply want to print the filename and its size.

This concludes the description of the shell in Listing One. Since developing this code, I have already created a whole new series of utility programs for my own use. I hope you find it just as useful.

Please write to Stephen Kemp c/o Amazing Computing, P.O. Box 869, Fall River, MA 02722-0869.

Listing One

```
/*  DDIR.C  Directory and subdirectories with attributes                */
/*--------------------------------------------------------------------*/
/*  Author: Stephen Kemp                                               */
/*  Each switch that the program allows must be specified in a command  */
/*  list defined by the structure type CMD_SWITCHES.                   */
/*                                                                     */
/* Users specify command switches by preceeding a switch character with a*/
/*  slash ( / ) or hyphen ( - ).                                       */
/*                                                                     */
/*  Non-switched arguments are simply counted and returned from the    */
/*  command line, thereby supporting variable arguments.               */
/*--------------------------------------------------------------------*/
#include <stdio.h>
#include <dos.h>
#include <string.h>
```

```
#define TRUE  1
#define FALSE 0
#define OK  0
#define ERR -1
#define FILEN 1
#define DIRNAME  2
#define YES     'Y'
#define NO      'N'

/*-----------------          -----------------*/
/*                                                                    */
/* The following structure is the heart of this command line parser.  */
/* An array of this structure type will contain all the switches that */
/* the program expects to receive.                                    */
/*                                                                    */
/* To provide user information of active switches the structure provides */
/* for both a name of the command switch and an area to specify help. */
/*                                                                    */
/* This model assumes that the first element will be the Help switch that*/
/* specifies the program name and versions as well and can contain a  */
/* short description.                                                 */
/*-----------------          -----------------*/

typedef struct {
    char swtch;                             /*switch letter*/
    char active;                            /*true false active*/
    char *name;                             /*name*/
    char *help;                             /*help information*/
    char *data;                             /*data pointer if given*/
}CMD_SWITCHES;

#define HELP   '?'
#define SUBS   'S'
#define NORMAL 'N'

CMD_SWITCHES SW[] = {
{HELP,0,"DDIR","pattern\nShow files w/ attrs in dir and subdirs",NULL},
{SUBS, 0, "Subdirectories", "included in search", NULL},
{ 0 ,0, NULL, NULL, NULL},
                };

/*-----------------          -----------------*/
/*  GET_ARG: This function searches an argument array for the specified */
/*  occurrence of a command line parameter which was not specified by a */
/*  switch (- or /) indicator.                                        */
/*  Returns: The associated data pointer if found.                    */
/*           NULL indicates no argument data was specified.           */
/*-----------------          -----------------*/
char * get_arg(int Count, char *Argv[], unsigned Argc)
{
    int i,x;
    for (x=i=1; i < Argc; ++i) {            /*look through all arguments*/
        if (Argv[i][0] == '/' || Argv[i][0] == '-')/* Not a command*/
            continue;
        if (x == Count) return(Argv[i]);    /*found the specified count*/
        x++;                                /*increment counter*/
    }
    return(NULL);                           /*No Argument found*/
}
/*-----------------          -----------------*/
/*  SET_SWITCH: This function activates the specified switch in the    */
/*  command list and assigns the data pointer passed.                 */
/*                                                                    */
/*  Returns: TRUE if the character was found in the command list      */
/*           FALSE if not found in the list                           */
/*-----------------          -----------------*/
int set_switch(char Chr, char *Pointer, CMD_SWITCHES *Cmds)
{
    int i;

    Chr = toupper(Chr);                     /*Case insensitive switches*/

    for(i = 0; Cmds[i].swtch != 0; i++){    /*Loop through all switched*/
        if (Cmds[i].swtch == Chr){          /*Is this a match*/
            Cmds[i].active = TRUE;          /*Then activate the switch*/
            Cmds[i].data = Pointer;         /*Associate the data pointer*/
            return(TRUE);                   /*return found*/
        }
    }
    return(FALSE);                          /*Not found in the list*/
}

/*-----------------          -----------------*/
/*  SWITCH_SET: This function returns the setting of the specified switch*/
/*  from the command list.                                            */
/*                                                                    */
/*  Returns: TRUE indicates the switch is active                      */
/*           FALSE indicates not active or not found in the list      */
/*-----------------          -----------------*/
int switch_set(char Chr, CMD_SWITCHES *Cmds)
{
    int i;

    Chr = toupper(Chr);                     /*Case insensitive switches*/

    for(i = 0; Cmds[i].swtch != 0; i++){    /*Look through all commands*/
        if (Cmds[i].swtch == Chr)           /*is this a match*/
            return((int)Cmds[i].active);    /*return the active status*/
    }
    return(FALSE);                          /*Not found in the list*/
}
/*-----------------          -----------------*/
/*  SWITCH_DATA: This function returns the data pointer of the specified */
/*  switch from the command list.                                     */
/*                                                                    */
/*  Returns: None NULL indicates the data pointer of argument         */
/*           NULL indicates if no data pointer or not found in the list */
/*-----------------          -----------------*/
char *switch_data(char Chr, CMD_SWITCHES *Cmds)
{
    int i;

    Chr = toupper(Chr);                     /*Case insensitive switches*/

    for(i = 0; Cmds[i].swtch != 0; i++){    /*Look through all commands*/
        if (Cmds[i].swtch == Chr){          /*is this a match*/
            if (Cmds[i].active)             /*if active then*/
                return(Cmds[i].data);       /*return the data pointer*/
            else                            /*otherwise*/
                break;                      /*stop looking*/
        }
    }
    return(NULL);                           /*Not found or not set*/
}

/*-----------------          -----------------*/
/* CHECK_SWITCHES: This function examines the command line arguments and */
/* assigns the appropriate switches from the Command list specified.  */
/*                                                                    */
/* Returns: OK (or FALSE) if no errors found.                         */
/*          TRUE if errors found.                                     */
/*-----------------          -----------------*/
int check_switches(unsigned Argc, char *Argv[], CMD_SWITCHES *Cmds)
{
    int i;
    char *chr;
    char swtch;
    int errors;

    errors = FALSE;                         /*no errors yet*/
    if (Argc > 1){                          /*if command line arguments*/
        for(i = 1;i < Argc; i++){           /*look through list*/
            chr = Argv[i];                  /*Get opening character*/
            if (*chr == '-' || *chr == '/'){ /*is this a switch indicator*/
                chr++;                      /*get past switch indicator*/
                swtch = *chr;               /*this is the swtch*/
                chr++;                      /*get to data*/
                if (*chr == '=') chr++;     /*get off equal*/
                if (*chr != '\0' && *chr != ' ') chr = NULL;
                if (set_switch(swtch, chr, Cmds) == FALSE){;/*invalid*/
                    errors = TRUE;          /*erros was found*/
                }
            }
        }
    }
    return(errors);                         /*return error state*/
}

/*-----------------          -----------------*/
/* HELP_COMMAND: Outputs the command switches and optionally displays the*/
/*  associated descriptions with the commands.                        */
/*                                                                    */
/* The CMD_SWITCHES structure assumes that the first element contains the*/
/*  program name and associated version information.                  */
/*-----------------          -----------------*/
void help_command(CMD_SWITCHES *Cmds, int All)
{
    int i;

    if (All){                               /*if display all information*/
        printf("%s %s\n",SW[0].name,SW[0].help);/*display program name*/
        printf("  /%c  This help info\n",HELP); /*the help info*/
    }

    for(i = 1;Cmds[i].swtch != 0; i++){     /*for the remainder */
        if (All){                           /*if All then print*/
            printf("  /%c  ",Cmds[i].swtch); /*the switch letter*/
        }
        if (Cmds[i].active == TRUE || All){  /*Then if active or All*/
            printf("%s %s\n", Cmds[i].name,
                    ((All)? Cmds[i].help : ""));/*display remainder info*/
        }
    }
}
/*-----------------          -----------------*/
```

```
/* ASK: This function is used to retrieve a Yes or No response from the  */
/* user to the question passed.                                          */
/*                                                                       */
/* Assumption is that the question is a text string followed by a data   */
/* text string generated by the program (such as a filename or something */
/* from a file).  You specify the default answer to the query.           */
/*                                                                       */
/* Returns: TRUE (1) if affirmative response                             */
/*          FALSE (0) if negative response                               */
/*-------------------          -------------------*/
int ask(char *Question, char *Datastr, char Defans)
{
    int ans;

    Defans = toupper(Defans);               /*the default answer*/
    printf("%s %s? (Y/N): %c\b", Question, Datastr, Defans);/*print query*/
    for(;;){                                /*keep getting until valid*/
        ans = toupper(getchar());           /*get character upper case*/
        if (ans == 13) ans = Defans;        /*if enter then default*/

        switch(ans){                            /*which answer chosen*/
        case YES:                               /*affirmative*/
            printf("Yes\n");                    /*show response*/
            return(TRUE);                       /*return affirmative*/
        case NO :                               /*negative*/
            printf("No\n");                     /*show response*/
            return(FALSE);                      /*return negative*/
        }
    }
}
/*-------------------          -------------------*/
/* OPERATE: This function is where the program specific code will begin  */
/* within the shell program.  The parameters to this function include    */
/* the Path name (with filename) the type of item passed: Directory or   */
/* filename.  And the FileInfoBlock for the file in question.            */
/*                                                                       */
/* This sample program merely displays the filename and the file size.   */
/*                                                                       */
/* Returns: OK (0) if no problems                                        */
/*          ERR (-1) if problem encountered                              */
/*-------------------          -------------------*/
int operate(char *Path, int Type, struct FileInfoBlock *Dirent)
{
    char buf[80+1];
    char fsize[FNSIZE+1];

    Path=Path;
    if (Type == FILEN){
        sprintf(fsize,"%ld", Dirent->fib_Size);
        sprintf(buf,"%-32.32s %10.10s \n",
            Dirent->fib_FileName, fsize);
    }else{
            sprintf(buf,"%-32.32s %10.10s\n",
                Dirent->fib_FileName, "[ Dir ]");
    }
    printf(buf);

    return(OK);
}
/*-------------------          -------------------*/
/* LOOKFORPAT: This function receives a file pattern and then searches   */
/* for all matching files.  Upon finding a match the OPERATE function is */
/* called to perform the specific code.                                  */
/*                                                                       */
/* If the pattern passed does not have a filename then the wildcard is   */
/* added assuming that the name was a directory name.                    */
/*-------------------          -------------------*/
void lookforpat(char *Pat)
{
    int j;
    struct FileInfoBlock di;
    char drv[FNSIZE],dir[FMSIZE],file[FNSIZE],ext[FESIZE];
    char dfile[FMSIZE],dext[FESIZE];
    char path[FMSIZE];

    strsfn(Pat,drv,dir,file,ext);           /* split components */
    if (file[0] == 0){
            strcpy(file, "#?");                     /* attach wildcards if
empty*/
    }
    strmfn(path, drv, dir, file, (strlen(ext))? ext: NULL);  /*merge*/

    for (j=0; ;++j) {
        if (j == 0) {
            if (dfind(&di, path, 1))        /* get first entry */
                break;
        } else {
            if (dnext(&di))                 /* get next entry */
                break;
        }
        strsfn(di.fib_FileName, NULL, NULL, dfile, dext); /* split name */
        strmfn(path, drv, dir, dfile, (strlen(dext))? dext:NULL); /*merge*/
```



```
            if (j == 0 && strlen(dir))          /* if found in sub-dir */
                printf("Sub-Directory [ %s ]\n", dir); /* print name */

        if (di.fib_DirEntryType < 0){       /* is just a file */
            if (operate(path, FILEN, &di) == ERR)  /* operate on it */
                return;
/* ------------------------*/
/* This portion only required if the "operation" */
/* requires the directory names.                 */
/*------------------------ */
        }else{
            if (operate(path, DIRNAME,&di) == ERR) /* operate on directory*/
                return;
        }
    }
}
/*-------------------          -------------------*/
/* LOOKFORDIR: This function first passes on the pattern as it is        */
/* received.  After returning from LOOKFORPATtern the switch setting     */
/* is checked to determine if sub-directories were to be included in the */
/* program search.                                                       */
/*                                                                       */
/* Upon finding subsequent directories the function calls itself         */
/* recursively to continue the search.                                   */
/*-------------------          -------------------*/
void lookfordir(char *Pat)
{
    char    drv[FNSIZE],dir[FMSIZE],file[FNSIZE],ext[FESIZE];
    char    path[FMSIZE];
    char    subs[FMSIZE],buf[FMSIZE];
    int     j,x;
    struct  FileInfoBlock di;

    lookforpat(Pat);
    if (switch_set(SUBS, SW) == FALSE) return;

    strsfn(Pat, drv, dir, file, ext);
    strmfn(subs,drv,dir,"#?",NULL);
```

```
    for (j=0; ;++j) {
        if (j == 0) {
            if (dfind(&di, subs, 1))   /* find first match */
                break;
        } else {
            if (dnext(&di))                                  /* find next entry */
                break;
        }
        if (di.fib_DirEntryType < 0)   /* if is not a dir */
            continue;
                /* put together the subdirectory name */
            sprintf(buf,"%s%s%s",dir,(strlen(dir))?"/":"",di.fib_FileName);

        strmfn(path, drv, buf, file, (strlen(ext))? ext: NULL); /* merge */

        lookfordir(path);              /* look for this dir pattern*/

            dfind(&di,subs, 1);              /* return to original pattern*/
            for(x = 1; x <= j; x++) dnext(&di);/* return to set position */
    }
}
/*---------------          ---------------*/
/* FIXNAME: This function may or may not be required for some utility    */
/* program.  The function copies the passed filename pattern into the    */
/* output name.  The output is altered if it is determined if the        */
/* original name was simply a directory name without wildcards specified */
/* Other specific code may be introduced here if necessary to ensure that*/
/* other criteria needs to be correct. For instance: default filenames,  */
/* extensions, etc.                                                      */
/*                                                                       */
/* Returns:  TRUE (1) if the pattern was altered                         */
/*           FALSE (0) if the pattern was not altered                    */
/*---------------          ---------------*/

int fixname(char *Name, char *Outname)
{
    char    drv[FNSIZE],dir[FMSIZE],file[FNSIZE],ext[FESIZE];
    int     rval;
    struct  FileInfoBlock di;
    char    *ptr;

    strcpy(Outname, Name);
    strsfn(Name, drv, dir, file, ext);

    rval = stcpm(Name, "#\\?", &ptr);

    if (!rval){                    /*no wild cards attached*/
        if (drv[0] && !(dir[0] | file[0])){
            strcat(Outname,"#?");
            return(TRUE);
        }else{
            if (dfind(&di, Outname, 1) == 0){ /* check if a directory*/
                if (di.fib_DirEntryType > 0){   /* is a directory
                    if (file[0] != 0)           /*if file name split out*/
                        strcat(Outname,"/");    /*out a backslash*/
                    strcat(Outname,"#?");     /*add wild cards*/
                    return(TRUE);
                }
            }
        }
    }
    return(FALSE);
}
/*---------------          ---------------*/
void main(unsigned Argc,char *Argv[])
{
    int i;
    char *Argument;
    char path[FMSIZE];

    if (check_switches(Argc, Argv, SW) != OK ){ /*if error in switches or*/
        set_switch(HELP, NULL, SW);             /*turn on help for user*/
    }
    if (switch_set(HELP, SW) == FALSE){      /*if help is not specified*/
        help_command(SW, FALSE);             /*show only current settings*/
        if (get_arg(1, Argv, Argc) == NULL){ /*not enough arguments*/
            fixname("#?",path);              /*fixup a name for dir*/
            lookfordir(path);                /*Look for items*/
        }else{
            for (i=1; i < Argc; ++i) {       /*for each argument*/
                if ((Argument = get_arg(i, Argv, Argc)) == NULL) break;
                fixname(Argument, path);     /*Fix path if directory*/
                lookfordir(path);            /*lock for this item*/
            }
        }
    }else{
        help_command(SW, TRUE);                          /*give all help*/
    }
}
```

•AC•

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Fred Fish Disk 437

CLIwindow CLIwindow allows you to manipulate the dimensions of a CLI window. It can be moved, enlarged, or shrunk. This is version 1.00. Includes source in assembly. Author: Roger Fischlin

Flip Very small program which replaces the left-Amiga-N and M commands with screen and window flipping commands. It's an excellent example of how to use PC-relative addressing within input handlers. Version 2.0, includes a technical discussion and source in C and assembly. Author: Mike Monaco and Timm Martin.

FMouse A mouse pointer accelerator, similar to Matt Dillon's DMouse. Includes a screen blanker and "hot keys". This is version 1.01. Includes source in assembly. Author: Roger Fischlin

PatchCompiler A program to generate patches using a Pascal like language to describe what needs to be patched. This is version 1.0. Includes source in assembly. Author: Roger Fischlin

WaitAnyKey A CLI command which will wait until the user presses any key. Useful for batch files, to pause until any key is struck. Version 1.00, includes source in assembly. Author: Roger Fischlin

Fred Fish Disk 438

GadgetED A program for creating and editing intuition gadgets. Includes a palette editor, generation of either C or assembly source, and binary saving for later loading and editing. Version 2.0, includes source. Author: Jan van den Baard

MenuC A menu and gadget compiler. Takes a simple ascii file describing menues and gadgets and creates the appropriate IntuiText structures needed to actually create working menues and gadgets, in either C or assembly source. This is version 0.8, binary only. Author: Bruce Mackey

ToolLib A shared library containing 45 useful functions for all kinds of programs. There are functions for ports, sorting, gadgets, memory, string, directory and file handling, etc. Version 7.6, includes source. Author: Jan van den Baard

Fred Fish Disk 439

AIBB Amiga Intuition Based Benchmarks is a program designed to test various aspects of CPU performance using a full intuition interface. Tests include "WritePixel", Sieve, Sort, Savage, Dhrystone, and Matrix. V2.0, binary only. ByLaMonte Koop

Curses A link library containing many of the terminal independant standard "curses" functions. Designed primarily for those interested in porting UNIX screen based programs to the Amiga. V1.22, an update to FF391. Includes source and examples. By Simon John Raybould

DeluxeChanger Converts binary files to assembler, basic, or C source code data initialization statements. It is useful to add graphics or sound samples to programs as initialized data. Version 1.0, includes source in assembler. Author: Andreas Ropke

HDClick A program selector, typically installed in the startup sequence as the first command. Has user defined gadgets, a configuration file, an iconify function, and works with both NTSC and PAL systems. V1.21, binary only. Author: Claude Mueller

M2Utils Various source modules for Benchmark Modula-2. Includes ColorReq, an interface to the Dissidents color library; IFFLib, an interface to Christian Webers iff library; and ARP, an interface to ARP V1.3. Author: Sascha Wildner

Fred Fish Disk 440

3DPlot A 3D function plotting program that does hidden line, solid, or contour plots of equations of the form Z=F(X,Y). You can scale the plot, set plot limits, change rotation, etc. Can save and load the plots themselves, as well as the data. Version 2.0, includes source. Author: Randy Finch

DMake Matt's version of the UNIX make utility. Features multiple dependancies, wildcard support, and more. V1.0, an update to FF246, but now includes source. Author: Matt Dillon

MegaD Yet another disk utility program for the Amiga. This one allows an unlimited number of directories to be accessed simultaneously. V1.01, shareware, binary only. By John L. Jones

Fred Fish Disk 441

Deksid A disk and file hexadecimal editor. Useful for editing binary files. Version 1.10, shareware, binary only. Author: Christian Warren, Marc Dionne

DiskPrint Prints labels for 3.5" disks, primarily for PD library disks. Label data files can be loaded into memory so labels for special disks are available without having to type anything in or without having to wait for AmigaDOS to read in the full directory. This is version 2.3.5b, an update to version 2.3.5 on disk 433, and fixes a minor problem with some printers. Shareware, binary only. Author: Jan Geissler

Dme Version 1.42 of Matt's text editor. Dme is a simple WYSIWYG editor designed for programmers. It is not a WYSIWYG word processor in the traditional sense. Features include arbitrary key mapping, fast scrolling, title-line statistics multiple windows, and ability to iconify windows. Update to FF284, includes source. Author: Matt Dillon

Fred Fish Disk 442

ToolManager With ToolManager you can add your own programs to the tools menu of the 2.0 Workbench. Requires Workbench 2.0. Version 1.2, includes source. Author: Stefan B.

UUCP An implementation of uucp for the Amiga, including mail and news. This is Matt's version for the Amiga, based on William Loftus's Amiga UUCP 0.40 release with news code from his 0.60 release, and months of work by Matt to make fixes and add enhancements. V1.08D, an update to FFdisk 360, and consists of three parts. Parts 1 and 2 are on this disk, and part 3 is onFF443. Includes source. Author: Various, major enhancements by Matt Dillon

Fred Fish Disk 443

DICE Dillon's Integrated C Enviroment. A C frontend, pre- processor, C compiler, assembler, linker, and support libraries. Features include ANSI compatibility, many code optimizations, and autoinit routines (user routines called during startup before main is called). V2.06.14, an update to FF359. Shareware, binary only. Author: Matthew Dillon

UUCP An implementation of uucp for the Amiga, including mail and news. This is Matt's version for the Amiga, based on William Loftus's Amiga UUCP 0.40 release with news code from his 0.60 release, and months of work by Matt to make fixes and add enhancements. V1.06D, an update to version 1.06D on disk 360, and consists of three parts. Parts 1 and 2 are on disk 442, and part 3 is on this disk. Includes source. Author: Various, major enhancements by Matt Dillon

Fred Fish Disk 444

ChinaChallenge A game similar to Shanghai or Mahjong. The goal is to remove all parts of the pile, the so called Dragon, step by step. This dragon is composed of 120 different game pieces. You can always find four pieces displaying the same picture or chinese symbols. This is version II, an update to the version on disk 312. Changes include some bug fixes, unlimited undo, saving and loading of games, background music, title screen, etc. Binary only. Author: Dirk Hoffmann

EliteBBS An online message and file handling system. Features include a message base, private mail, file library, support for xmodem, ymodem, and zmodem, fully buffered serial I/O routines for top speed, time limits, and more. V.31, binary only. By Nick Smith

MissileCmd A fast Missile Command game written in assembly. Features include using a hires interlaced screen, time based events for correct operation on any speed Amiga, multitasking friendly, and sound effects. Binary only. Author: Max Bithead

RegExpLib Shared library that implements regular expression pattern matching. Version 1.0, binary only. Author: Stephen Moehle

UltraF-4 Demo version of a super graphic based floppy format program that can format four floppy disks at the same time and even format disks that other programs give up on. Binary only. Author: Terry Bullard and Signa Bullard

Fred Fish Disk 445

MWTape A tape handler which uses scsi.device to implement serial access to typical streaming tape devices. Includes source. Author: Markus Wandel

OptMouse A program which allows you to use a Mouse Systems M3 serial mouse on the Amiga and instructions which allow a serial mouse to be modified to plug directly into the Amiga mouse port. Useful as an example of how to "fake" mouse movements and may be of use in writing drivers for digitizers, light pens, and the like. Includes source. Author: Ed Hanway

Tar A port of a UNIX tar clone that can work with the TAPE: handler (also on this disk) to read and write UNIX tar compatible tapes. Includes source. By John Gilmore, FSF, Jonathan Hue, et. al.

TurboText An almost fully operational demonstration copy of a new sophisticated text editor for the Amiga. Features many unique capabilities including an impressive ARexx interface with over 140 commands available, full outlining abilities, clipboard support, complete reconfigurability, recorded macros, programmer's calculator, emulations of many popular text editors, and much more. This demo version does not allow saving or printing of documents and limits the size of cut and paste operations. Version 1.0, binary only. Author: Martin Taillefer

UUCP A bug fix for UUCP 1.08 released on disks 442 and 443, which had already been finalized at the time this fix reached me so could not be included there. Fixes a serious bug in uucico. Author: Matt Dillon

Fred Fish Disk 446

CanonBJ A printer driver for the Canon BJ series of printers. Faster and supports more graphic and text modes than the standard Commodore driver. Shareware, binary only. Author: Wolf Faust

GamePort A toolkit with link time and shared libraries that allow easy access to the GamePort device. Includes examples and test programs. Version 1.1, binary only. Author: Paris Bingham

Input A toolkit with link time and shared libraries that allow easy access to the Input device. Includes examples and test programs. Version 1.1, binary only. Author: Paris Bingham

PointerLib A disk based shared library which provides programmers with easy access to custom pointers and a consistent user selected busy pointer. Includes source. Author: Luke Wood

Post An excellent PostScript interpreter for the Amiga which implements the full Adobe language. Supports type 1 and type 3 fonts, screen output, file output, and printer output. Requires Arp library V39+ and ConMan V1.3+. This is version 1.4, an update to version 1.3 on disk 408. Includes source in C. Author: Adrian Aylward

Fred Fish Disk 447

AmiBack Demo version of a new backup utility. Features include backup to any AmigaDOS compatible device (such as floppies, removable hard disks, fixed media hard disk, and tape drives), no copy protection, configuration files, complete backups, incremental backups, selective backups, file exclusion filter, setting of archive bit, etc. Demo version does not have restore, compare, or scheduler. Version 1.0, binary only, requires AmigaDOS 2.0. Author: MoonLighter Software

BackPac Demo version of a new backup program. Features include intuition interface, data compression, 907K written per floppy, full and incremental backups, full or selected restores, inclusion/exclusion patterns, user defined config files, multitasking friendly. V1.3, binary only. By Canadian Prototype Replicas

DFC Disk Format and Copy program. A nice, general purpose, disk formatter and copier. Version 5, an update to FF131. Includes source. Author: Tom Rokicki and Sebastiano Vigna

FlashBack Demo version of a new backup utility. Fully functional version except for the restore operation. Features include backup of multiple partitions in one pass, backup of non- AmigaDOS partitions, backup to a file, automated unattended backups, pattern matching, and streaming tape support. Version 2.05, binary only. Author: Leon Frenkel, Advanced Storage Systems

SMan A Mandelbrot generation program. Uses the mouse to select regions within borders of the Mandelbrot set to zoom up to magnifications of 10**19. Includes math coprocessor support and options to save images as an IFF file. Shows example of assembly programming of extended precision for the 68881. Includes source. Author: David McKinstry

TCL Port of Tool Command Language, a simple textual language intended primarily for issuing commands to interactive programs such as text editors, debuggers, illustrators, shells, etc. It has a simple syntax and is programmable so TCL users can write command procedures to provide more powerful commands than those in the built in set. Alpha 2 version, binary only. Author: Dr. John Ousterhout, Amiga port by Hackercorp

Fred Fish Disk 448

AmigaPet Another cute screen hack. Version 2.52b, binary only, source available from author. Author: Patrick Evans

FifoDev FIFO: is like PIPE: but is based on fifo.library rather than its own implementation. Fifo.library is a general fifo library implementation that supports named fifos, writing to a fifo from a hardware exception, multiple readers on a fifo with each getting the same data stream, efficient reading, and automatic or manual flow control. Programs that require non-blocking IO can access one side of a FIFO: connection via the fifo.library instead of the FIFO: device. Version 2, an update to version on disk 432. Includes some source. Author: Matt Dillon

Mkid A program identifier database package that provides a logical extension to "ctags". The ID facility stores the locations for all uses of identifiers, preprocessor names, and numbers (in decimal, octal, or hex). Includes source. Author: Greg McGary, Amiga port by Randell Jesup

NightMare A handy little program that uses "shock" techniques to scare people. Fun to watch while someone else is using your computer. Version 1.0, binary only, source available from author. Author: Patrick Evans

OnTime Holds up a task until a given time and then releases it to run. Version 1.0a, binary only, source available from author. Author: Patrick Evans

PicToANSI Converts a one bit plane 320x200 IFF picture to a file that displays the picture on any ANSI compatible terminal. Binary only, source available from author. Author: Patrick Evans

SolitaireX A solitaire game. Features include all possible moves shown with a pulsing green box around the card, reshuffle, unlimited undo, and tournament mode. Binary only. Author: Stephen Orr, Gregory M. Stelmack

ST2Amiga A program to convert Atari ST format relocatable executables to Amiga format relocatable executables. for subsequent loading into the ReSource disassembler and conversion to Amiga. ST2Amiga should also compile and run on an ST. Version 1.1, includes C source. Author: David Campbell

Swish A small simple screen hack that pushes the screen around using the view port, and simulates a floating motion. Binary only, source available from author. Author: Patrick Evans

Fred Fish Disk 449

Globulus Demo version of a new arcade game that is reminiscent of the old Q-bert game. You control a cute little character and hop him around pathways in a diagonal kind of world, while trying to avoid bad things and catch good things. Binary only. Author: Innerprise

Handshake A full featured VT52/VT100/VT102/VT220 terminal emulator. The author has taken great pains to support the full VT102 spec. Supports ANSI colors, screen capture, XPR external protocols, user selectable fonts, ARexx, and more. This is version 2.20c, an update to version 2.12a on disk number 172. Binary only, shareware. Author: Eric Haberfellner

Iff2Ansi Turns any two-color low-res IFF picture into ANSI text that can be displayed on any ANSI compatible terminal. This is version 0.1, includes source in assembly. Author: Carnivore/BeerMacht

Shazam A picture viewer for Dynamic HiRes images created with Macro Paint, the 4096 color high resolution paint program from Lake Forest Logic. Version 1.1, includes two sample Dynamic HiRes images and source for display program. Author: Lake Forest Logic

WonderSound Wondersound is an additive harmonic instrument design tool with a separate envelope design window and 16 relative harmonic strength and phase angle controls. Version 1.7, an update to version 1.6 on disk 428. Binary only. Author: Jeffrey Harrington

Fred Fish Disk 450

AmyVsWalker Another cute animation from Eric Schwartz. This one has Amy the Squirrel attempting to take a wrench to the a "Walker" from "The Empire Strikes Back". Author: Eric Schwartz

MinRexx A simple ARexx interface which can be easily patched into almost any program. Includes as an example the freedraw program from disk number 1. This is version 0.4, an update to the version on disk 188. Includes source. Author: Tomas Rokicki

Tabu Quarter inch cartridge (QIC) tape backup utility. Works with Microbotics HardFrame. May work with other controllers as well (untested). Includes source. Author: Roy C. Sigsby

UUCP A bug fix for UUCP 1.08 released on disks 442 and 443, which had already been finalized at the time this fix reached me so could not be included there. Includes a new getty and some bug fixes. Author: Matt Dillon

Fred Fish Disk 451

'Liner A shareware outliner whose function is to create outlines for notes or export to other programs. 'Liner can save an outline as ASCII text and is clipboard compatible. This version utilizes a number of AmigaOS 2.0 features and thus requires 2.0. Support for the new ECS Denise display modes is also included. V2.11, an upgrade to FF394. Includes source in C. By Dave Schreiber

Convert Converts 39 different image formats into CBM standard 24 bit IFF files for display on devices such as Black Belt Systems HAM-E product. Version 1.6, binary only. Author: Pete Patterson and Ben Williams

ProDrivers AmigaDOS 1.3 printer drivers for the IBM 4201 and 4202 series of printers. Version 1.0, binary only. By David White

RCS The Revision Control System (RCS) manages multiple revisions of text files. RCS automates the storing, retrieval, logging, identification, and merging of revisions. RCS is useful for text that is revised frequently, for example programs, documentation, graphics, papers, form letters, etc. This is an update to RCS version 1.2 on disks 281 and 282, and includes only the files that have changed. Author: Walter Tichy. Amiga port by Raymond Brand and Rick Schaeffer.

RRamDisk Another recoverable ram disk. This one supports up to 32 units and can be autobooted. Unused sectors are deleted from memory. The ram disk can be formatted, copied to, or used just like a normal disk drive. Binary only. By Bob Dayley

SnoopDos A utility for monitoring AmigaDOS calls. In particular, it allows you to see what libraries, devices, fonts, environment variables or startup files a program is looking for. Very useful when you're trying to install a new application. V1.2, an update to FF388. Includes source in C. By Eddy Carroll

Fred Fish Disk 452

Budget A program to help with managing personal finances. V1.302, an update to FF416. Binary only. By Le Lay Serge Camille

FLODemo Floorplan Construction Set demo. Fully functional except the Save IFF function is disabled and 15 pages of clip rooms have been replaced by a single sample page. This is version 1.48, binary only. ByJim Hennessey, Gramma Software

ImageLab A program which performs image processing on IFF pictures. Includes standard image processing functions such as convolution, averaging, smoothing, enhancement, histograms, FFT's, etc. Also includes file conversion functions, a clipboard, and other useful functions. Version 2.4, an update to version 2.2 on disk 243, includes bug fixes, PAL support, overscanned and super-bitmap image support, improved paint operation, better area selection, HAM histograms, and FFTs. Binary only. Author: Gary Milliorn

MandelPAUG A version of MandFXP with complete online help, a fully implemented Mandelbrot and Julia set "movie mode", and many improvements in the user interface. Version 2.1, binary only, source available. Author: Bruce Dawson, Steve Larocque, Jerry Hedden

Fred Fish Disk 453

AmigaTration A "Concentration" like game for the Amiga, where you must locate matching tiles on a grid that can range from 4x4 (easy) to 12x12 (difficult). Version 1.0, binary only. By Gabe Dalbec

Lemmings Demo version of an enchanting new game from Psygnosis. The lemmings are cute little guys you have to guide across the screen from one level to the next, over and under and around various obstacles, by using your mouse and changing each lemming's characteristics to get them to perform various useful tasks such as building bridges or digging through obstacles. Binary only. Author: Dave Jones, Gary Timmons, Scott Johnston, and Brian Johnston

ProjMot A Projectile Motion plotter. Plots the path of a projectile fired with a variable initial velocity and angle. Display can be scaled, and time can be accelerated. The program returns the distance traveled and the time it took. This is version 1.01, includes source. Author: Chris Hopps

Quick A utility program specifically targeted at hard drive users to eliminate the frustration of launching programs on the Amiga. It eliminates the need to open Workbench windows and/or remember and type in long pathnames to executables. Version 1.0, binary only. Author: Greg Gorby

Fred Fish Disk 454

Decigel A software fix for programs that use instructions which are priviledged on the 68010/020/030. Update to the version on disk 18. Includes source in assembly. Author: Byrce Nesbitt

Enforcer Enforcer uses the MMU to build a shroud of protection over anything that is not legal memory. Any empty holes in the address space are marked as illegal. Reads of the system ROMs are allowed, but not writes. With the exception of longword reads of location 4, the lowest 1K of memory is completely protected. When an illegal access is detected, the power LED will flash and a detailed message will be sent out the serial port. Binary only. Author: Bryce Nesbitt

Redaktu A PostScript program which runs on PixelScript to edit other PostScript programs. Several examples and a detailed explanation are included. Author: John Starling

StillStore A program designed for freelance, corporate, and broadcast television. It loads and displays IFF images of any resolution interchangeably from a list file or as inputted directly (I.E. random access). The user may easily skip forward or backward one or more pictures in the list. A "generic" display is always just a few seconds away. The program can be used "on air" with no concern that a pull down menu will suddenly appear in the viewable area. It also provides for a precise cue for changing windows or screens. While the main purpose is to load *news win-

dows" of 1/4 screen size, StillStore can also handle full-sized and overscanned images. Also includes slide show modes and a screen positioning feature. Stillstore is written in the Director language from the Right Answers Group. This is version 1.2.1, an update to version 1.2 on disk 317. Binary only, source available from authors. Author: R. J. (Dick) Bourne and Richard Murray

Vortex A universal accented character converter for Amiga, IBM-PC, MacIntosh, and C64 files written in most west european languages (Danish, Finnish, French, German, Italian, Islandic, Norwegian, Spanish, Swedish, and more. Works with either ASCII or Word Perfect files. Version 1.5, includes source. Author: Michel Laliberte

Fred Fish Disk 455

AngusCopy A disk copy program with intuition user interface. Version 2.0, shareware, includes source in Modula II. Author: Andreas Gunser

ConvMacF Converts MacIntosh type 1 Adobe fonts to a format usable on the Amiga. Reads a compressed MacIntosh format Adobe font file and unpacks it to an ASCII text file, which permits sending the font to a printer as a PostScript program. Includes source. Author: Unknown, Amiga port by Joe Pearce

MemMon A small memory monitor. Version II, shareware, includes source in Modula II. Author: Andreas Gunser

Vlt VLT is both a VT100 emulator and a Tektronix (4014 plus subset of 4105) emulator, currently in use at SLAC (Stanford Linear Accelerator Center). Although the VT100 part was originally based on Dave Wecker et al.'s VT100, many enhancements were made. Features include use of ARP, an ARexx port, XMODEM 1K/CRC and Kermit protocols, support for additional serial ports, external file transfer protocols (XPR), a "chat" mode, and scrollback/review/history buffer. It comes in two versions, one with Tektronix emulation, and one without. The Tektronix emulation allows saving IFF files, PostScript files, and printing bitmaps to the printer. This is version 5.034, an update to version 4.846 on disk 410. Binary only. Author: Willy Langeveld

Fred Fish Disk 456

CheatSheet A compilation of cheats, hints, backdoors, helpful bugs, passwords, codes, solves, and walkthroughs for over 150 Amiga games. February 1st, 1991 edition, an update to January 1st edition on disk 431. Author: Mark Shnayer

CManual Parts 1 and 2 of a complete C manual for the Amiga which describes how to open and work with Screens, Windows, Graphics, Gadgets, Requesters, Alerts, Menus, IDCMP, Sprites, VSprites, AmigaDOS, Low Level Graphics Routines, Hints and Tips, etc. The manual also explains how to use your C Compiler and gives you important information about how the Amiga works and how your programs should be designed. The manual consists of 15 chapters together with more than 100 fully executable examples with source code. When unpacked, the manual and examples nearly fill up four standard Amiga floppies. This is version 2.0, an update to version 1.0 on disk 337. Because of its size, it is distributed on two library disks, parts 1 and 2 on disk 456 and parts 3 and 4 on disk 457. Author: Anders Bjerin

Fred Fish Disk 457

CManual Parts 3 and 4 of a complete C manual for the Amiga which describes how to open and work with Screens, Windows, Graphics, Gadgets, Requesters, Alerts, Menus, IDCMP, Sprites, VSprites, AmigaDOS, Low Level Graphics Routines, Hints and Tips, etc. The manual also explains how to use your C Compiler and gives you important information about how the Amiga works and how your programs should be designed. The manual consists of 15 chapters together with more than 100 fully executable examples with source code. When unpacked, the manual and examples nearly fill up four standard Amiga floppies. This is version 2.0, an update to version 1.0 on disk 337. Because of its size, it is distributed on two library disks, parts 1 and 2 on disk 456 and parts 3 and 4 on disk 457. Author: Anders Bjerin

Line A shell written to enhance the bare-bones CLI with features that many people find useful in the UNIX csh, including history, aliases, a directory stack, etc. Version 1.15, includes source. Author: John D. Aycock

QuickReq An "Ask utility" to replace the "ask" command from AmigaDOS. QuickReq can load arguments from files thus making it possible to handle long questions and texts. Also supports optional line breaks in BodyText, an option to center text to window, DisplayBeep when requester is activated, setting your own FrontPen number, specifying requesters width and height and all kinds of overscan displays. First public release. Version 2.0, includes source. Author: Markus Aalto

Fred Fish Disk 458

ATCopy A program to copy files from the Amiga side of a system equipped with a PC/AT bridgeboard, to the PC side, using wildcards. Copies directly through the shared memory. Supports CLI and WorkBench usage. This is version 2.2, an update to version 2.1 on disk 429. New features include much faster copying and selection of all options using WorkBench. Shareware, binary only. Author: Peter Vorwerk

Csh Version 4.02a of a csh like shell derived from Matt Dillon's shell, version 2.07. This is an update to version 4.01a on disk 331. Changes include bug fixes, preservation of file protection bits by cp, some new commands, and reformatted documentation. Includes source. Author: Matt Dillon, Steve Drew, Carlo Borreo, Cesare Dieni

GIFMachine A program that will convert CompuServe GIF image files into IFF SHAM and 24bit ILBMs. It offers a number of extra options like dithering, horizontal and vertical flip, as well as automatic border removal. Requires KickStart version 2.0 or greater to run. This is version 2.116, an update to version 2.104 on disk 405. Includes source. Author: Christopher Wichura

TeXify A package of ARexx scripts, for CygnusEd users, which allows total control of AmigaTex from within CED. This is version 1.10e, binary only. Author: Wolf Faust

Fred Fish Disk 459

AmiDock An Amiga version of the NeXT's "dock", but more versatile and not as limited. Provides you with a number of buttons on the WorkBench screen that, when pressed, will launch other programs. These buttons are fully configurable to run any program you want. Version 1.2.4, binary only. Author: Gary Knight

Conquest Lore of Conquest is a war game similar in concept to the board game Risk. You are the lord of an entire world, destined to rule the galaxy. Some worlds are virgin fruits, ready for you to colonize. Some worlds have natives who do not wish to accept your rule, these you must conquer for they will yield more valuable resources. As you claim the galaxy you will find, you are not the only one extending your dominion. This is a two-player game, so be prepared to defend yourself and take what is yours! Version 1.3, an update to version 1.2 on disk 432. Binary only, shareware. Author: Michael Bryant

Rxgen An ARexx library that allows you to call any function of almost any Amiga library from an ARexx program. This is version 1.0, binary only. Author: Francois Rouaix

XprZmodem An Amiga shared library which provides ZModem file transfer capability to any XPR-compatible communications program. This is version 2.10, an update to version 2.0 on disk 261. Includes source. Author: Rick Huebner

Zoom A fast and efficient floppy disk archiving utility based on the data compression / decompression algorithms used by lh.library. Has an Intuition and a Shell interface, fully supports Kickstart 2.0, is able to add texts and notes to archived output files, knows 66 different bootblock viruses, includes a number of compression parameters (such as encryption of the output file) and a lot more. Version 4.1, an update to version 3.10 on disk 436. Binary only. Author: Olaf 'Olsen' Barthel

Fred Fish Disk 460

JMenu This program allows an AmigaDOS script to display a menu. wait for the user to make a selection either with the mouse or the keyboard, and return the selection back to the script through an environment variable. It can also immediately execute any valid AmigaDOS command based upon the menu selection. The maximum size of the menu is based on the screen resolution and font size, up to a maximum of 26 selections of a maximum of 80 characters each and an optional title area of up to 4 lines. Version 1.1, binary only. Author: James Collins

NetHack A screen oriented fantasy game where your goal is to grab as much treasure as you can, retrieve the Amulet of Yendor, and escape the Mazes of Menace alive. On the screen is a map of where you have been and what you have seen on the current dungeon level. As you explore more of the level, it appears on the screen in front of you. Nethack generates a new dungeon every time it is played, thus even veteran players will continue to find it entertaining and exciting. This is version 3.0, patch level 10, an update to version 2.3 on disks 189 and 190. Binary only, source available. Author: Various, see documentation.

ShadowMaker Demo version of an Intuition based Font shadow generator. In seconds you can convert your favorite fonts into color fonts with professional video shadows built right in. The only restriction for this demo is that the final font height at SAVE times must be less than 40 pixels in height. Version 1.5, an update to version on disk 428. Binary only. Author: Stephen Lebans

Fred Fish Disk 461

DFrags Disk Fragmentation reporting utility. Displays disk fragmentation for both floppy and hard disk devices. Does not attempt to change any data, just gives a report. Version 2.02, shareware, binary only. Author: Custom Services

DiskPrint Prints labels for 3.5" disks, primarily for PD library disks. Label data files can be loaded into memory so labels for most PD disks are available after a few mouse- clicks. Features include three different label sizes, default file, different label library functions, Amiga- LibDisk contents read-in and easy handling. This is version 2.7.2, an update to version 2.3.5b on disk 441. Shareware, binary only. Author: Jan Geissler

Logic A small game that is somewhat reminiscent of "life". Version 2.0, includes source in assembly. Author: Thomas Jansen

MandAnim A Mandelbrot Animation program that allows you to easily generate series of lo-res/16-color pictures. Features full mouse and/or keyboard operation, zooms, auto-save, high (+cheat) speed, iconization, preview, ease, etc. The generated pictures all remember their positions and settings so they can be reloaded. This is version 1.2, an update to version 1.1 on disk 387. Binary only. Author: Ekke Verheul.

NewList A powerful LIST replacement. Supports many features including sorts, character filters, case sensativity, most options offered by LIST, date construction, UNIX wildcards, and much more. Sort routines are VERY fast and memory usage is minimal. Version 4.5, binary only. Author: Phil Dietz

SBall A game using the joystick to control a "bouncing ball". Binary only. Author: Hertzig Wolfgang and Meisner Christian

TDraw An easy to use Window Title Bar Pattern Editor for use with TBar. Load, save, test, and edit patterns. Saves script files that can be executed later to change window patterns at anytime (like on boot-up). Includes TRand, a utility to pick a random TBar file so your WorkBench will look different each time you reboot. Version 1.0, binary only. Author: Phil Dietz

Tron Another game based on the lightcycle race sequence in the science fiction computer film "Tron". This is version 1.0, unrelated to other Tron releases in the library. Includes source in assembly. Author: Thomas Jansen

Fred Fish Disk 462

CacheDisk Improves floppy disk throughput by caching entire tracks of data. Buffers disk reads and writes for maximum speed gain and has a user setable number of buffers for each drive. Version 1.0, binary only. Author: Terry Fisher

DisTerm The dissidents telecommunication program. Has built in phone directory requester, autodial, various file transfer protocols, ascii send and capture, full/half duplex, split window, color requester, macro keys, selectable baud, CR/LF expansion, automatically configured per phone entry. Binary only. Author: Jeff Glatt

Humartia An arcade game where each player controls a jet and must destroy the opponents jet, which is accomplished when a jet has been hit 75 by either missiles or air mines. Binary only. Author: Jason Bauer

SeaLance Game based on a Trident submarine simulator. You must use the weapons at your disposal to liberate the earth's cites from alien occupation. Binary only. Author: Jason Bauer

Up&Down The object of this game is to get four of your chips in a row (across, down, or diagonally) without letting your opponent get his chips in a row first. Binary only. Author: Jason Bauer

Fred Fish Disk 463

ExecRexx A program that turns an ARexx script into an executable which can be run from WorkBench or the CLI. Binary only. Author: Jeff Glatt

FileIO A file requester library based upon an example by R.J. Mical. Has numerous features, including uses other than disk I/O. Version 1.C, update to version 1.9 on disk 393. Binary only. Author: Jeff Glatt, Jim Fiore, R.J. Mical

ILBM The ilbm reader/writer library 0.5 and examples. Also can be used for non-ILBM files. 100% compatible with original Electronic Arts code. Binary only. Author: Jeff Glatt

LibTool A utility that can quickly convert C or assembly code into an Amiga shared library. Also makes all support files including C and assembly include files, bmap files, Manx and Lattice pragmas, C glue stubs. Can also make a device. Binary only. Author: Jeff Glatt

PrintSpool A shared library to easily add text or graphics print spooling to any C or assembly program. Binary only. Author: Jeff Glatt

RexxIntuition An ARexx function library which allows ARexx scripts to open windows/screens, add menus, add proportional, boolean, and string gadgets, use requesters, load/save ILBM pictures, use a color requester, print text in various colors, sizes, and styles, draw colored lines and boxes, print text or graphics, etc. Binary only. Author: Jeff Glatt

RexxLib A shared library that can be used to easily add an ARexx implementation to any program in a memory efficient manner. Binary only. Author: Jeff Glatt

Fred Fish Disk 464

Cross A program that creates crossword puzzles. Has a message data file to allow easy translation into almost any human language, with English and Germany currently supported. This is version 3.3, includes source in M2Amiga Modula-2. Author: Jurgan Weinelt

FileWindow A completely public domain file requester which may be used in any program, even commercial ones. It uses dynamically allocated memory to hold the file names so the only limitation is the amount of memory available. Includes a filter option to limit display of filenames to only ones with a specific extension. Names are automatically sorted while they are being read and displayed. This version has been enhanced by Bernd Schied for more device gadgets, renaming of files and directories, ANSI-C source, and more. Update to version 1.10 on disk 336. Includes source. Author: Anders Bjerin, Bernd Schied

PictureEditor An "object-oriented" paint program that allows you to create, modify, lcad, and save hierarchical structured picture objects. Version 1.12, shareware, binary only. Author: Hans W. Stremlau

Scan CLI utility to display the individual character contents of any file. Displays the ASCII and Hex values, count and percentage of total along with actual character (if displayable). Listing is displayed on a console window or optionally written to an output file. Possible uses would be to scan files for binary characters, relative character counts, matching numbers of special characters, determining LF/CR configurations, etc. Version 1.0, includes source. Author: Dan Fish, console routine by Jim Cooper

Fred Fish Disk 465

FCS Prerelease version of an iterated Fractal Construction Set program, used to generate iterated fractal images such as Sierpinski's triangle, ferns, etc. This is version 0.99, binary only. Author: Garth Thornton

Lz An lharc compatible archiver that is reported to be much faster than other available archivers and produce smaller archives. Version 1.01, shareware, binary only. Author: Jonathan Forbes

MRBackUp A hard disk backup utility that does a file by file copy to standard AmigaDOS floppy disks. Includes an intuition interface and file compression. Version 5.02a, an update to version 3.4 on disk 327. Shareware, binary only. Author: Mark Rinfret

TextPlus A word processor for the Amiga, with both German and English versions. TextPlus enables you to write letters, books, programs etc. in a very easy and comfortable way. This is version 2.2E, the same as on disk 375. However, this release includes the source (the description on disk 375 claims the source is included but it was not). Author: Martin Steppler

Fred Fish Disk 466

DICE Dillon's Integrated C Enviroment. A C frontend, preprocessor, C compiler, assembler, linker, and support libraries. Features include ANSI compatibility, many code optimizations, and autoinit routines (user routines called during startup before main is called). This is version 2.06.15 (2.06B), an update to version 2.06.14 on disk 443. Shareware, binary only. Author: Matthew Dillon

HamLabDemo Demo version of an expandable image format conversion utility. Converts GIF, TIFF, PBMPLUS, Spectrum 512, MTV, QRT, and Sun images into HAM and SHAM. Images can be scaled, dithered, color corrected, and cropped. This demo version is limited to processing images of 512 by 512 pixels or less. Version 1.1, shareware, binary only. Author: J. Edward Hanway

Mosaic Mosaic is a game played with a set of 81 two-by-two tiles on a 24-by-24 playing area. The objective of the game is to place your tiles such that squares of the same pattern are connected as much as possible. Version 1.0, includes source. Author: Kirk Johnson and Loren J. Rittle

StopWatch A stop watch application with the precision of one millisecond (variable), which scans the joystick button. Full multitasking capability and intuition interfacing, ARexx port for parameter and result handling, and supports all non-proportional WorkBench fonts. Written in Modula 2 and assembly language. Version 2.0, binary only. Author: Christian Danner

Fred Fish Disk 467

Multiplot An intuitive data plotting program featuring flexible input options, arbitrary text addition, automatic scaling, zoom and slide with clipping at boundaries, a range of output file formats and publication quality printed output. Workbench printers are supported via transparent use of the PLT: device. This is version XLNd, an update to version XLNc on FF373. Includes bug fixes, many new features, postscript and HP LaserJet III support, logarithmic axes. Author: Alan Baxter, Tim Mooney, Rich Champeaux, Jim Miller

PowerSnap A utility that allows you to use the mouse to mark characters anywhere on the screen, and then paste them somewhere else, such as in another CLI or in a string gadget. Checks what font is used in the window you snap from and will look for the position of the characters automatically. Recognizes all non proportional fonts of up to 24 pixels wide and of any height. Works with AmigaDOS 2.0 in both shell and WorkBench environments. Version 1.0, binary only. Author: Nico Francois

Fred Fish Disk 468

Post An excellent PostScript interpreter for the Amiga which implements the full Adobe language. Supports type 1 and type 3 fonts, screen output, file output, and printer output. Requires Arp library V39+ and ConMan V1.3+. This is version 1.5, an update to version 1.4 on disk 446. Changes include better type 1 font rendering and some bug fixes. Includes source in C. Author: Adrian Aylward

Vlt Vlt version 5.045, a partial update to version 5.034 on disk 455. Includes new executables with and without Tektronix emulation, and a new xprascii library. You still need the files from disk 455 to make a complete distribution. Binary only. Author: Willy Langeveld

Fred Fish Disk 469

AirAce A fast paced WWI biplane shoot'em up game built using Accolade's Shoot'Em Up Construction Kit. Binary only. Author: Robert Grace

FastLife A fast life program featuring an intuition interface, four screen sizes, 19 generations/second, and 153 patterns in text file format. Version 1.0, binary only. Author: Ron Charlton

Triangle A game like chinese checkers, consisting of fourteen pegs and one empty hole in a triangular formation. The object of the game is to leave one peg in the original empty hole or have eight pegs on the board and no possible moves. Version 1.1, includes source in BASIC. Author: Russell Mason

WordPuzzle The object of this game is to find a word in a puzzle arrangement. There are three different variations of the game. Version 1.1, includes source in BASIC. Author: Russell Mason

Fred Fish Disk 470

BCF FORTRAN-77 compiler, linker, and runtime support library. No Amiga specific hooks, just vanilla FORTRAN. ANSI compatible with extensions. Version 1.3c, binary only. Author: André Kostli

KeyMenu An alternative to Intuition's method of menu selection via the keyboard. Uses one key to activate the menu for the currently active window, the cursor keys to move through the menu as you choose, and the return key to select the desired menu item or escape key to abort selection. Works with AmigaDOS 2.0 mouse accelerator and has option to blank Intuition's pointer. Version 1.03, includes assembly source. Author: Ken Lowther

TripleYachtZ An implementation and variation of the game "Yacht". Plays both Single (the standard game) and Triple, which differs from normal Yacht-Z in that all scores in the 3rd column of your scorecard are worth three times as much as the normal value and those in the 2nd are worth double. Version 1.2, binary only, source available from author. Author: Stephan Iannce

Fred Fish Disk 471

BTNTape A "Better Than Nothing" SCSI tape device handler. It provides flat file access to a SCSI tape drive from application programs using simple DOS calls to Read() and Write(). It can also be used with the Amiga TAR utility for disk backups. It requires a "SCSI-direct" compatible SCSI bus adapter but will also work with the A2090(A). It now supports many more tape drives, and has some new features. This is version 2.0, an update to version 1.0 on disk 392. Includes source. Author: Robert Rethemeyer

MachIII A "mouse accelerator" program that also includes hotkeys, features of sun mouse, clicktofront, popcli, title bar clock with a bbs online charge accumulator, Arexx support and much more. Updates for Workbench 2.0 have been added along with many fixes and new features. This is version 3.1, an update to version 3.0 on disk 378. Binary only. Author: Brian Moats and Polyglot software

MoleWt MoleWt is a molecular weight calculator. The program accepts a chemical formula and returns the molecular weight. This is version 1.01, binary only. Author: John Kennan

Uedit A nice shareware editor with learn mode, a command language, menu customization, hypertext, online help, a teach mode, split windows, copy and paste, undo, features. This is version 2.6e, an update to version 2.6c on disk 415. Binary only. Author: Rick Stiles

Fred Fish Disk 472

CNewsBin This is part 1 of a C News distribution for the Amiga. This part includes all the binary and text files necessary to set up and run C News. Part 2 is available on disk 473 and contains the source. C News uses UUCP, such as Matt Dillons implementation (see disks 479 and 480) or that included with this software's previous version (disk 319). This package has been reworked and now includes a newsreader, AmigaRN (Sharware). All major (and a few minor) features of Unix C News are implemented. The Author refers to this as release 15-Dec-90, an update to the orginal version on disks 318 and 319. Author: Various, Amiga port by Frank Edwards

ICalc An expression calculator that works with real and complex numbers, has arbitrarily-named variables and user-defined functions, startup files and more. Version 1.0, includes source. Author: Martin Scott

IFFBeep A small utility that lets you replace the screen flash of DisplayBeep() with any IFF 8SVX sound file. Also plays sounds on disk insertion/removal. It can be run from the CLI or Workbench and includes an interactive "control panel". Version 2.0, binary only. Author: Paul Wilkinson

Fred Fish Disk 473

BigBrother A virus infection detection program with some optional utilities. It runs as a normal task and checks every 1 second the important memory locations in the Amiga. As a bonus, BigBrother is capable of starting a new shell, starting script files, viewing and installing bootblocks. All this in a program less than 10K. Includes assembly source. Author: Erwin van Breemen

CNewsSrc This is part 2 of a C News distribution for the Amiga. This part includes all the source for C News. Part 1 is available on FF472 and includes all the binary and text files necessary to set up and run C News on the Amiga. CNews uses

UUCP, such as Matt Dillons implementation (see disks 479 and 480) or that included with this sofware's previous version (disk 319). This package has been reworked and now includes a newsreader, AmigaRN (Sharware). All major (and a few minor) features of Unix C News are implemented. The Author refers to this as release 15-Dec-90, an update to the orginal version on disks 318 and 319. Author: Various, Amiga port by Frank Edwards

Family_Sol A preliminary version of the Authors "Family Solitair" card game. A standard game of Solitair with options for multiple players, sound etc. Binary only. Author: Errol Wallingford

MissileCmd A fast Missile Command game written in assembly. Features include using a hires interlaced screen, time based events for correct operation on any speed Amiga, multitasking friendly, and sound effects. This is version 2, an update to the version on disk 444, with bug fixes and enhancements. Binary only. Author: Max Bithead

Fred Fish Disk 474

Aequipot A program that renders multicolor pictures using an algorithm based on electrostatic effects. Renders in low-res and high- res, and in two speed/quality modes. Includes both PAL and NTSC versions of the program. English and German docs. This is version 1.06, includes source in PCQ, freeware. Author: Juergen Matern

AmiDock AmiDock is an Amiga version of the NeXT's Dock facility. It will open up a small window on your WorkBench full of little IFF brushes, Each brush represents an application, like an ICON but it's a brush. Click on the brush and your application will start. This is version 1.2.4. Shareware, binary only. Author: Gary Knight

CrcLists Complete CRC check files for disks 401-470 using the brik program. These were made directly from my master disks. This is an update to the lists on disk 401. Author: Fred Fish

Enforcer Detects/protects against illegal memory hits. Compatible with all OS versions & machines (requires a Memory Management Unit or 68030 processor). The low 1K of memory and all areas that are not RAM are protected from CPU reads or writes. ROM is marked as read-only. Version 2.6f, binary only. Author: Bryce Nesbitt

GreekFont A 12 point font with Greek letters. Version 1.0. Author: Daniel Moosbrugger

Imperium Strategic, "RISK" style game for up to four players. Based in the ancient times of Rome, Athens, Alexandria and Carthago. Binary only, shareware ($10). Manx-C source available from the author. English version 1.66E and German version 1.79D. Update to version 1.50E on Disk 362. Author: Roland Richter

Fred Fish Disk 475

AssignX A 2.0-only utility to create assignments when you get a "Please insert volume" requester. Also lets you cancel the request, forever. Installs by dropping into your WBStartup drawer. This is version 1.0, includes source. Author: Steve Tibbett

Blankette VERY tiny screen blanker/dimmer. Very nice on your system, very little CPU time, compatible with just about everything. Dims screen rather than going black. Includes assembler source. Author: Max Bithead

CITAS Convert ILBM To Assembler Source. CITAS allows one to easily put graphics into his/her own programs. CITAS takes a standard IFF ILBM image file and converts it into either assembler or 'C' source code. Designed for blitter image control, all of the necessary labels are generated, along with color map information, mask generation, and other options. This is version 2.0, shareware, binary only. Author: Max Bithead

GadgetED A program for creating and editing intuition gadgets. Includes a palette editor, generation of either C or assembly source, and binary saving for later loading and editing. Also comes with "PatchGE", a program for converting the original format of GadgetED binaries to be loadable by this and future versions. Version 2.3, an update to version 2.0 on disk 438, includes source. Author: Jan van den Baard

ToolLib A shared library containing 45 useful functions for all kinds of programs. There are functions for ports, sorting, gadgets, memory, string, directory and file handling, etc. Version 8.1, an update to version 7.6 on disk 438, includes source. Author: Jan van den Baard

Fred Fish Disk 476

Browser A programmer's "Workbench". Allows you to easily and conveniently move, copy, rename, and delete files & directories from a CLI environment. Also provides a method to execute either Workbench or CLI programs. Version 1.7, an update to version on disk number 180, binary only. Author: Peter da Silva

MED A music editor much like SoundTracker. A song consists of up to 50 blocks of music, which can be played in any order. Editing features include cut/paste/copy tracks or blocks, changing the vibrato, tempo, crescendo, and note volume. Other features include switching of the low-pass-filter on or off on a per song basis, and a cute little animated pointer of a guy doing "jumping jacks" in time to the music! Improvements include AmigaDos 2.0 compatibility. This is version 3.00, an update to version 2.13 on disk 424. Binary only. Author: Teijo Kinnunen

Mostra Mostra is a shareware IFF utility featuring real-time unpacking scroll, dozens of options, "smart" analysis of any IFF file (FORMs, LISTs,... also nested ILBM!), total control over display modes, simple slideshow processing, pattern matching, SHAM, an external link to show Dynamic Mode pictures, double buffering, fast decompression, color cycling, TeXdocs, startup files for easy custom configurations and complete WB support, through ToolTypes and Style icons! This is version 1.14, an update to version 1.0 on disk 330. Binary only. Author: Sebastiano Vigna

ToolManager ToolManager is a full featured program to add programs (either WorkBench or CLI) to the tools menu of the 2.x WorkBench. Programs can be added by dragging their icons onto the ToolManager "config" window or the optional ToolManager icon or by editing the config file. Requires Workbench 2.0. This is version 1.3, an update to FF442. Includes source. Author: Stefan Becker

Fred Fish Disk 477

IRMaster This is a hardware/software project to allow the Amiga to read an infrared remote control via the parallel port. Includes an ILBM of the schematic for a simple interface to the A1000 parallel port, some modifications are needed for other Amigas. The source code and executable for a reader program are included. For further functionality modifications to the source can be performed. By Ron Peterson

MegaBall This is a new version of the game "Ball" by the same author. It is a Breakout type game, and is very good. Complete with impressive sound. This one's addicting. Binary only. Author: Ed Mackey

NoDelete This program pops up a requestor to alert you of a file deletion being attempted via DeleteFile() and allows you accept or cancel it. This also pertains to any files you attempt to delete via "delete". Version 1.5a source is included. Author: Uwe Sch"urkamp

Fred Fish Disk 478

LSlabel A simple label printing utility. Very powerful as the user can/must do a lot of settings by himself. Features include variable linefeeds (in 1/216 inch steps), a very exactly setting of the label length and freely configurable printer codes. Version 1.0, binary only. Author: Stefan Berendes.

MED-Songs A selection of musical pieces created with MED, the musical editor program (see disk 476 for MED 3.00). Includes MEDPlayer version 3.0. Author: Hans-H. Adam

MP A small, useful utility for sending any MIDI data back and forth between an Amiga and a MIDI instrument. Helpful for learning about MIDI, writing/debugging MIDI software, figuring out your instrument's system-exclusive implementation, and more. Very versatile. Version 1.0, includes source. Author: Daniel J. Barrett

NewList A powerful LIST replacement. Supports many features including sorts, character filters, case sensitivity, most options offered by LIST, date construction, UNIX wildcards, and much more. Sort routines are very fast and memory usage is minimal. Version 4.9, an update to version 4.5 on disk 461. Binary only. Author: Phil Dietz

Fred Fish Disk 479

CheckPrt A small program for checking the presence of a parallel printer from within a script file. Binary only. Author: Tom Kroener

TDP A small trackdisplay program that uses whatever screen is up front. Binary only. Author: Tom Kroener

UUCP An implementation of uucp for the Amiga, including mail and news. This is Matt's version for the Amiga, based on William Loftus's Amiga UUCP 0.40 release with news code from his 0.60 release, and months of work by Matt to make fixes and add enhancements. This is version 1.13D, an update to version 1.08D on disk 442, and consists of four parts. Parts 1 and 2 are on this disk, and parts 3 and 4 are on disk 480. Includes source. Author: Various, major enhancements by Matt Dillon

Fred Fish Disk 480

Cryptor A program that encrypts and decrypts data (files). It uses a mathematical algorithm with password key protection. Has both English and German versions and documentation. This is version 1.0, binary only. Author: Thomas Schossow

NoCare This utility speeds up your windowing environment. The OpenWindow vector is patched. When someone tries to open a window in the workbench screen, the lower refreshbit in the nw_Flags field is cleared. This way, only NOCAREREFRESH windows will be opened, resulting in faster window movements. Windows opened in customscreens are not affected. This is version 1.5. Assembly source included. Author: Raymond Hoving

TplEdit A gadtools template editor. It is able to generate nearly standalone C source code. The program will only run under OS 2.0, Kickstart 37.73 or higher. This is version 1.00 Alpha. Includes source. Author: Matt Dillon

UUCP An implementation of uucp for the Amiga, including mail and news. This is Matt's version for the Amiga, based on William Loftus's Amiga UUCP 0.40 release with news code from his 0.60 release, and months of work by Matt to make fixes and add enhancements. This is version 1.13D, an update to version 1.08D on disk 442, and consists of four parts. Parts 1 and 2 are on disk 479, and parts 3 and 4 are on this disk. Includes source. Author: Various, major enhancements by Matt Dillon

Fred Fish Disk 481

K1 An editor program for the Kawai K1-II synthesizer. Includes a bankloader for single-patches and multi-patches, a single- patch editor, a multi-patch editor, and support for the effect-session and K1 controllers. Version 4.8, binary only. Author: Andreas Jung

MCP A "TRON" like cycle race game for up to four players. Version 13.76, update to version on disk 338, includes source in assembly. Author: Jorg Sixt

TLPatch A utility to allow corrections in pronunciation for programs that use the Translate() function. It allows you to extract the exception table from the translator.library, use a text editor to edit the table, and then restore it back into the library. Version 1.0, includes source. Author: Richard Sheppard

WaveMaker WaveMaker is intended to give beginning music and physics students a "hands on" feel for how complex waves are made by adding a harmonic series of sine waves. A fundamental and up to seven harmonics are available. The resulting waveform can be displayed on the screen or played on the audio device using the keyboard like a piano. A game mode is also provided. Version 1.2, an update to version 1.1 on disk 318, with several bugs fixed, more efficient code, and a new display option. Includes source. Author: Thomas Meyer

Fred Fish Disk 482

Ephemer A program which calculates the positions of the sun, moon, and planets for any date and any place. Includes source in HiSoft BASIC. Author: Yvon Alemany

Molec3D An interactive 3D solid modelling program for molecules. Produces a graphic, three dimensional representation of molecules, based on 3D coordinates data from geometry optimization programs, X-ray measurements, or any other source. Can handle up to 500 atoms at a time. Requires 1Mb or more of memory. Version 1.022, binary only. Author: Stefan Abrecht

Fred Fish Disk 483

ButExchange An input handler to help left handed Amiga users. It reverses the function of the mouse buttons, so that the left button becomes the right and vice versa. Very small, uses only 168 bytes of memory. Version 1.0, includes source in assembler. Author: Preben Nielsen

ColorSamples A few executable color samples made by ColorCatch from disk 396. Contains the 'old' colors from kickstart 1.3 and the 'new' colors from kickstart 2.0. Very useful because some programs/icons look awful when displayed in colors other than the ones they were created for. Author: Preben Nielsen

InputLock An input handler to help Amiga users who have cats other pets (or children) that mess with the Amiga as soon as it is left for a second. It installs an input handler which lets you lock the keyboard and mouse by pressing a few buttons. Very small, uses only 190 bytes of memory. Version 1.0, includes source in assembler. Author: Preben Nielsen

MED MED is a music editor that can be used to compose music for demos/games etc. It can be used as a stand-alone music program as well. The features include built-in sample editor, synthetic sound editor, MIDI support (up to 16 tracks), and options to read/write NoiseTracker modules. Included are routines that allow programmers to easily incorporate music made with MED in their programs. This is version 3.10, an update to version 3.00 on disk 476. Binary only. Author: Teijo Kinnunen

MouseXY A small utility that opens a little window in which it shows the mouse coordinates and the color at that position. It can be moved from screen to screen and is able to show coordinates even when you are moving/resizing windows or moving Workbench icons. Version 1.0, includes source in assembler. Author: Preben Nielsen

PicSaver A small utility that allows you cut rectangular portions of any screen and store them on disk as IFF ILBM files. Also allows easy saving of windows and entire screens to disk. Version 1.0, includes source in assembler. Author: Preben Nielsen

PointerX Spins the hands of any pointer that looks like the standard AmigaDOS 2.0 Workbench "busy" pointer (a clock). Will also work with any application that uses the same pointer. Includes source. Author: Steve Tibbett

PSX A public screen manager for AmigaDOS 2.0. Lets you open, manipulate, and close public screens, set the global public screen bits, and provides a good example of using GadTools and ReadArgs. Version 1.1, an update to version on disk 418. Includes source. Author: Steve Tibbett

PWKeys An input handler that allows you to manipulate windows and screens by pressing keys on the keyboard. It currently lets you perform 17 different functions. Includes an interactive program to define hotkeys. Very small, uses only 1124 bytes of memory. Version 1.0, includes source in assembler. Author: Preben Nielsen

TD A program like TrackDisplay on disk 399 by Olaf Barthel. It monitors and displays the current track for each floppy disk connected to the Amiga. Version 1.0, includes source in assembler. Author: Preben Nielsen

Fred Fish Disk 484

BootPic BootPic allows you to install nearly any IFF picture that you like in place of the WorkBench hand that appears after a reset. Version 1.0, includes source in assembly. Author: Andreas Ackermann

EZAsm Combines parts of "C" with 68000 assembly language. The resulting code is optimized as much as possible. Now bundled with A68k and Blink for a complete programming environment. New "c.lib" functions and more. This is version 1.5, an update to version 1.31 on disk 431. Includes example source and executable files. Binary only. Author: Joe Siebenmann

MSClock A clock utility, which displays memory, date, time and online time (if connected to another computer via modem) in the titlebar of the WorkBench screen. This is version 1.3, includes source. Author: Martin Steppler

Spright Spright is a sprite making utility. Simple or attached sprites can be saved to a file ready to be added to your program. The colors used with the sprite(s) will also be saved. Version 1.2, binary only. Author: Todd Neumiller

TextPlus A word processor for the Amiga, with both German and English versions. This is version 3.0, an update to version 2.2E on disk 465. New features include the ability to print footnotes and serial letters, multiple windows, an ARexx-interface with 120 commands, powerful block-operations, ANSI-compatibility, ability to load files crunched by PowerPacker, etc. Shareware, binary only. Author: Martin Steppler

Viewer Displays IFF pictures fast! Version 1.0. Includes source in EZAsm. Author: Joe Siebenmann

Fred Fish Disk 485

Drawmap A program for drawing representations of the Earth's surface. This version includes a completely rewritten user interface and some new functions. Version 2.25d, an update to version 2.0 on disk 315. Includes source. Authors: Bryan Brown & Ulrich Denker

NiftyTerm NiftyTerm is an h19/VT102/VT52 emulator for the Amiga. It was originally designed to be used with DNet, but it has been expanded so that it may be used as a normal terminal emulator. Niftyterm was designed to be a good emulation of these terminals, as well as being fairly small and fast. Version 1.2, an update to version 1.0 on disk 403. Binary only, source available from authors. Author: Christopher Newman, Todd Williamson

Spades This is an Amiga version of the card game spades. It is a one player version, where the computer plays your partner and two opponents. This is version 1.2, an update to version 1.1 on Disk 392. Includes source in C. Author: Greg Stelmack

Fred Fish Disk 486

Metafont Amiga port of the Metafont package, a program to create TeX fonts. Includes versions for 68000 and 68020. Disk 487 contains a copy of the Metafont font source files from the TeX distribution tape, including the Computer Modern Roman and the LaTeX fonts. This is version 2.7, binary only. Author: Donald E. Knuth, Stefan Becker (Amiga port)

SoundEd Demo version of an 8SVX sound editing package, written in machine code for optimum speed and minimum size. Can also be used for digitizing with SoundEd or Perfect Sound hardware. Version 1.0, demo, binary only. Author: Howard Dortch and Mike Coriell

Fred Fish Disk 487

AssignX A 2.0-only utility to create assignments when you get a "Please insert volume" requester. Also lets you cancel the request, forever. Installs by dropping into your WBStartup drawer. This is version 1.2, an update to version 1.0 on disk 475. Includes source. Author: Steve Tibbett

MFSrc A copy of the Metafont font source files from the TeX distribution tape, suitable for use with the Amiga port of Metafont on disk 486. Included are the Computer Modern Roman and the LaTeX fonts. These should be sufficient to run a normal TeX installation. Author: Various

PPrint A printing utility, designed for all those who slowly but surely become frustrated with programmers who think that they can do a form feed better than their printer can. This one relies on the printer itself to do the formatting, and on the program to send the settings. Features include a full icon driven user interface, the ability to convert tabs to any size, and the ability to save a number of standard settings. Version 1.10, includes source. Author: Marc Jackisch

Fred Fish Disk 488

LordOfHosts A strategy game for two players based on a board game called "Shogun". Features include flexible mouse/joystick controls, undo and redo of up to 500 preceding steps, fully intuition- ized user interface. Version 1.0, complete source code, precompiled include files and debugger files included. Author: Tim Pietzcker

MidiTools A group of several different utility programs for those who run a Midi system. Update to version on disk 159. Includes three new programs, two of which are synthesizer editors, and compatibility with AmigaDOS 2.0. Binary only. Author: Jack Deckard

SGD This program makes it possible to delete games, that are saved by any of the existing Sierra adventures (e.g. Leisure suit Larry). The program has a LEARN-option for including new adventures. Version 1.0, binary only. Author: Maico Ditzel

SuperDuper A very fast disk copier and formatter. Can make up to four unverified copies from a ram buffer in 36 seconds. Verified copies from a ram buffer take 67 seconds for one destination drive, plus 34 seconds for each additional destination. Binary only. Author: Sebastiano Vigna

View80 Scrolling text file reader with three scrolling modes controllable via keyboard or mouse. Opens file requestor if no filename is given. Automatically configures screen size for PAL or NTSC machine. Version 2.0, an update to version 1.1 on disk 365. Binary only. Author: Federico Giannici

Fred Fish Disk 489

Automata Automata is an extremely versatile, cellular automaton simulation. Virtually every aspect of the simulation can be altered, saved, and later recalled. Also supplies many powerful editing functions (such as patterns, rotations, reflections, etc) for creating and modifying cell configurations. Additional features include editable icons, an immense variety of rules from which to choose, "music" which changes as the cell configuration changes and methods to speed execution from 3 to 60 (or more) generations per second. Binary only. Author: Jerry Mack

MkBmap Builds Amiga format bitmapped fonts from PostScript fonts. Uses the library "post.library" (disk 468) to render the characters. Best results are obtained with fully hinted type 1 fonts, such as those supplied by Adobe and other vendors. Version 1.0, includes source. Author: Adrian Aylward

SKsh A ksh-like shell for the Amiga. Some of its features include command substitution, shell functions with parameters, aliases, local variables, local functions, local aliases, powerful control structures and tests, emacs style line editing and history functions, I/O redirection, pipes, large variety of built-in commands, Unix style wildcards, Unix style filename conventions, filename completion, and co-existence with scripts from other shells. Very well documented. Version 1.7, an update to version 1.6 on disk 381. Lots of new features and bug fixes. Binary only. Author: Steve Koren

Fred Fish Disk 490

AmiCheck An easy to use, intuitive, friendly checkbook program. Allows you to enter your checks in a very natural style, giving you a running balance as you do so. Options include reconciling your checkbook, starting new registers with outstanding checks only, printing all, cleared, outstanding, or selected entries, and more. Version 2.0, shareware, binary only, requires AmigaDOS 2.0. Author: Jeff Hoag

AntiLemmin Another great, humorous, animation from Eric Schwartz. This one was obviously inspired by the wonderful Lemmings game. Lasts a full two minutes and ten seconds. Requires at least 2 Mb of memory. Author: Eric Schwartz

Recolor A fully configurable icon recoloring tool that can swap or shift the colors of selected icons and truncate the depth of the icon color map. Binary only. Author: Michael Sinz

To Be Continued.....

In Conclusion

To the best of our knowledge, the materials in this library are freely distributable. This means they were either publicly posted and placed in the public domain by their authors, or they have restrictions published in their files to which we have adhered. If you become aware of any violation of the authors' wishes, please contact us by mail.

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Fall River, MA 02722

AC is extremely interested in helping any Amiga user groups in non-commercial support for the Amiga.

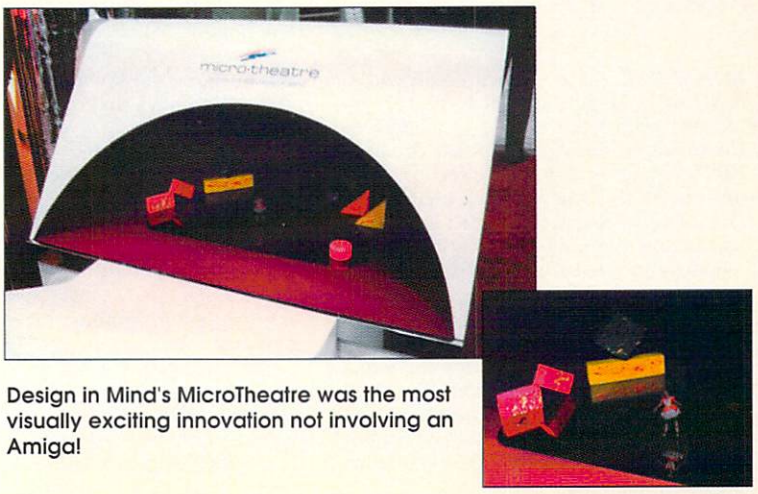
(CES, continued from page 70)

With this type of support from developers, CBM has a good chance of standing their ground. With CDTV expanding into 12 new markets by July, CBM should increase the confidence of its developer community. And with CBM's CommodoreExpress also backing CDTV players, CBM will also be able to provide the CDTV consumer with confidence.

Viewing MicroTheatre

One of the most interesting displays (outside of CBM's booth) was the animation images created by the MicroTheatre™ manufactured by With Design in Mind. Design in Mind has been able to project an image so that it appears to stand in mid-air. As if by magic the figures move through what appears to be a three-dimensional landscape.

According to Michael Levin, vice president of marketing for Design in Mind, MicroTheatre™ uses a theory of optics that has been around for years. This technique has been combined with laser disc and computer technology to provide interactive kiosks and other displays for a very unique look.



Design in Mind's MicroTheatre was the most visually exciting innovation not involving an Amiga!

Although the demonstration given at CES was performed by a laser disc and MS-DOS compatible combination, all of the work could have been handled as easily with an Amiga and DCTV, from Digital Creations, or CDTV using CDXL. This fact was apparent by the many Commodore executives who walked the short distance from CBM's booth to see the demonstration and talk with the executives at Design in Mind.

In the next issue, we will continue our Summer CES coverage with more Amiga products and vendors. Look for special announcements from Konami, ReadySoft, Ocean, Spectrum Holobyte, Accolade, Electronic Arts, Mindcraft, Three-Sixty, U.S. Gold, Kawai, RGB Computer & Video, Strategic Simulations, Inc., Software Toolworks, and many more.

Companies mentioned

Accolade
550 S. Winchester Blvd.
San Jose, CA 92518
(408) 985-1700
FAX (408) 246-0885
Inquiry #241

Applied Optical Media Corp
18 Great Valley Parkway
Malvern, PA 19355
(215) 889-9564
FAX (215) 993-8392
Inquiry #242

Bethesda Softworks
15235 Shady Grove Road, Ste. 100
Rockville, MD 20850
(301) 926-8300
FAX (301) 926-8010
Inquiry #243

Commodore Business Machines, Inc.
1200 Wilson Drive
West Chester, PA 19380
(215) 431-9100
Inquiry #244

Context Systems, Inc.
The Technology Center
333 Byberry Road
Hatboro, PA 19040
(215) 675-5000
Inquiry #245

Design in Mind
9660 Topanga Canyon Blvd.
Chatsworth, CA 91311
818-407-1286
FAX 818-407-0022
Inquiry #246

Domark LTD
Ferry House
51-57 Lacy Road
Putney London SW15 1PR
441-780-2222
FAX 441-780-1540
Inquiry #247

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FAX (615) 521-4891
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Psygnosis (North America)
29 Saint Mary's Court
Brookline, MA 02146
(617) 731-3553
FAX (617) 731-8379
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Psygnosis (United Kingdom)
South Harrington Bld
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United Kingdom
4451-709-5755
FAX 4451-709-6466
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Tiger Media
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Los Angeles, CA 90040
(213) 721-8282
FAX (213) 721-8336
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The Vivid Group
317 Adelaide St. W, Ste. 302
Toronto, Ontario, Canada M5V 1P9
(416) 340-9290
FAX (416) 348-9809
Inquiry #254

Wright Enterprises
Hudson Rd.
Temple, NH 03804
(603) 878-1491
FAX (603) 878-4966
Inquiry #255

We Apologize!

To make room for an extra measure of coverage from the Summer Consumer Electronics Show in Chicago, we were forced to delete the full-page order form that normally appears on this page.

To order any of the quality AC line of Amiga products, please use the convenient tear-out card found between pages 16 & 17 of this issue. For faster service, order by Visa or MasterCard anywhere in the U.S. or Canada by calling toll free, **1-800-345-3360**!

And furthermore...

An Interview With Ron Stanczak of Commodore USA

RON STANCZAK is an energetic, friendly, continually excited individual who appears to have been tailor-made for his task at Commodore. As Vice President of Sales, Ron Stanczak is responsible for all direct dealers, OEMs (Original Equipment Manufacturers), VARs (Value Added Resellers), and anyone else, with the exception of mass merchandisers (such as Montgomery Ward or Macy's) who retail the Amiga.

Mr. Stanczak arrived at CBM over a year ago after 25 years with NCR. His years at NCR were spent rising through the ranks from Systems Engineer to District Sales Manager, Director of Product Management, Director of OEM sales, and finally to Assistant Vice President of Sales and Marketing for the PC product line.

Today, Mr. Stanczak maintains his zest for the Amiga while attempting to broaden

acceptance of the Amiga in today's market. He accepts this responsibility with experience and common sense most easily noted in a conversation AC had with him recently.

AC: What brought you to the Amiga and Commodore?

Stanczak: A while back, I saw a real opportunity with the PC area. I wanted to get into it and I enjoyed success with it. Over a year ago, I was dabbling with multimedia and I saw the same opportunity: another emerging market. I looked around and only one company promoted multimedia. Apple Computer talked about it, IBM talked about it, but Commodore did it. I felt there was a real opportunity there to learn something and to have fun at the same time.

AC: What have you been doing with the direct dealers?

Stanczak: What we have found and what we have been trying to do for a year is to convince them that the Amiga has to be shown to people. They need to have the commitment to go out and talk to various businesses—to call on major accounts and major universities and take a very active role in taking the Amiga to these accounts. Those who have done so have been very successful.

AC: What programs have you used for this?

Stanczak: Before Christmas, we put together a seminar kit for video. Commodore did the first five to make sure that they were bullet-proof. We wanted to make sure that all the scripts, demonstrations, mailings, invitations, etc. were perfect.

We put together "Commodore Lease" so that people who came to the seminar could lease the systems. We put together the "Gold Service" and the "CommodoreExpress" so that if the dealer elected not to do service, they (the customers) were covered by a nationwide third-party service firm. They were also covered on-site for the first year with the option of purchasing two additional years. In effect what we had were all the replicable pieces in place. The invitations, badges, rooms, refreshments were all done. All the different nit-picking pieces you have when putting together a seminar like this were completed. We found that we got a pretty good return on the mailings. We also found that of the people who attended, the close ratio [*number of people buying to those attending*] was very high.

In order for us to increase business and bring on more dealers, it is incumbent on us to make sure that they can make a living in their territory.

In Dallas we asked, "How many people own an Amiga?" Not many, maybe a quarter or a third of them raised their hands. The other two-thirds were very interested people from major corporations that we may have never gotten to see.

This program has been very successful. I received a letter from Jeff Moskow at Slipped Disk telling us of his success in Detroit with seven hundred people attending: 350 people in the morning and 350 in the afternoon.

They are working on one now for applied training. In the next two quarters we will have replicable seminars in a different market. But, with the same concept—bringing people in. We are learning from each one—what works and what does not work.

AC: What exactly is the aim of the CommodoreExpress?

Stanczak: If you are working the kind of hours that most of us work, it is dark when you go to work and dark when you get home. If your Amiga 500 or CDTV doesn't work, how are you going to find time during the day to find a computer dealer to fix them? Then how long will it take to get it back? If you have a problem, we will have Federal Express pick up your product at a location you specify, such as your office. In three days we will either return your repaired unit or replace it.

AC: The Gold Service is a step above that?

Stanczak: Why should someone buy a Commodore Amiga? A buyer says,"I don't know Amigas. I am not sure." But if something goes wrong, Commodore will fix it on site. The Gold Service provides a comfort factor.

However, we have discovered that 90% of the problems are not hardware-related. Either a cable is inserted incorrectly or the disk is in upside down. A lot of times, we don't need to send a technician. If a keyboard or monitor is broken, we will send a new unit to the customer rather than send a technician just to tell us what we already know. We dispatch Federal Express with a new unit and they will pick up the old one and bring it back. The customer is happy and Commodore is happy. Just remember to keep your original packing material.

It's all under CommodoreExpress. The Gold Service program is available only to the A2000 or A3000 user and it must be activated by your dealer.

AC: Why is it so important for Commodore to eliminate mail order purchases of Amigas?

Stanczak: It goes back to what I said earlier. The Amiga is a system that must be demonstrated. The gray market only possibly serves the base of existing users. But, more importantly, in order for us to increase business and bring on more dealers, qualified dealers, professional dealers, it is incumbent on us to make sure that they can make a living in their territory.

Typically if the machine doesn't work, the machine is brought back to the local dealer. The local dealer doesn't want to fix it because it was not purchased there. The customer is unhappy, the dealer is unhappy, and Commodore gets a bad image.

AC: Where should a customer go if he is having a problem with a dealer?

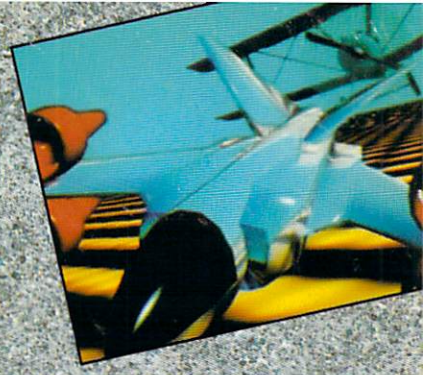
Stanczak: Customer Satisfaction at Commodore. We ask the customer to state the problem in writing and then ask the dealer about it. We find that most times it is a lack of communications but we work it out.

AC: What is ahead for Commodore?

Stanczak: We have had a phenomenal success with the "Power Up" program and you will be seeing a great increase in print advertising. There will be a lot of consumer advertising which will bring people into the dealers.

•AC•

All photographs are of actual DCTV screens.



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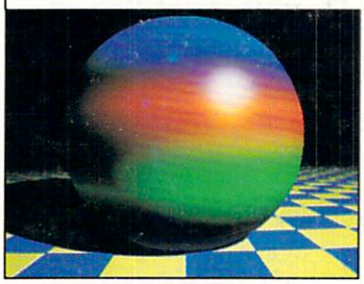

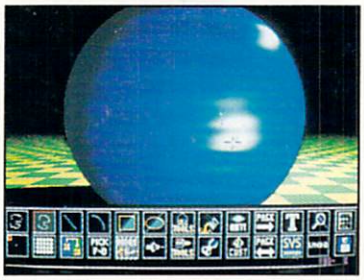

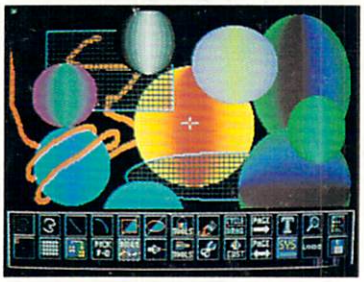

These images are **completely unretouched** photos taken from a stock 1084s RGB monitor using the basic HAM-E unit. They are pure RGB, *not* smeary composite.

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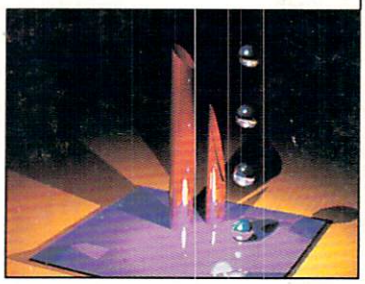

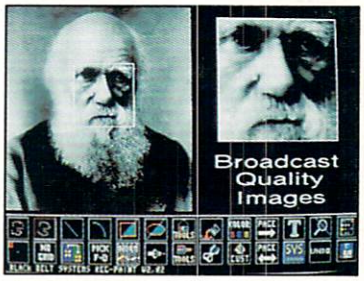

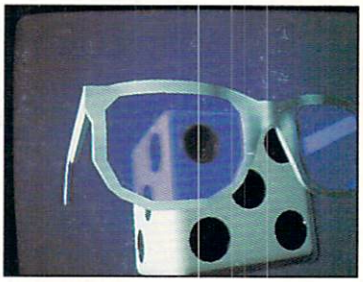

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